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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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THE RANGE FINDER.

The Range Finder, the invention of a United States naval officer, is an interesting exhibit at the Trans-Mississippi exposition, although questions as to its operation fall on deaf ears. One of the naval officers in charge of the exhibit declares that it is a fact that no other navy has any means of finding the range that does not involve a mathematical calculation. This implies a good deal of time lost, and in most cases they find it quicker to get the range by actual experiment. The Spaniards, for instance, had to fire several shots before they could get the range of Uncle Sam's ships. If their first shot fell short they tried again, and they were apt to overshoot, and by that time the position of the vessels was likely altered and they were still at sea. Meanwhile the officer in the conning tower of the American ship located them almost exactely with this instrumnt, and reported the range by telephone to the various gun captains. This consumed only a few seconds, and while the Spaniards were still trying to get their range the shells from the American guns swept their decks.

"The peculiar thing about the instrument," says the officer, "is that while it is one of the simplest things in the world to anyone who knows its secret, the most expert mechanic or inventor might examine it as long as he wanted to and still be unable to discover how it works. This is why representatives of other navies have been completely baffled in their efforts to find it out. They have range finders of their own, but none that gives the same instantaneous and accurate results. And as long as they can be kept in the dark we will be able to outshoot any nation on earth, even if there was no difference in the skill of the gunners." There is another advantage in the use of the instrument which amounts to considerable in the course of half a dozen naval engagements. It costs $1,360 to fire a pair of 13-inch guns once. If the Spaniards go into a fight they must fire at least two shots to secure the range. Frequently these do not answer, and they go on shooting $680 charges into the air, while every pound of powder that goes into a United States gun is utilized. The ability of the American gunners to obtain the exact position of the enemy before a gun is fired saves thousands of dollars in ammunition in every engagement.

A FRENCH SUBSIDY.

The franchise to establish a line of mail steamers between Havre and New York was originally granted by the French government to the Compagnie Generale Transatlantique, in 1857. The sum paid annually to the company by the government was fixed at $1,794,900, of which $579,000 was applied solely to the steamers running to New York, making an average subsidy of $10.77 per nautical mile. The minimum speed exacted by the government upon granting the franchise was 11½ knots an hour, and the number of trips was twenty-six per annum. In 1873, the French authorities increased the amount of the subvention to $703,292, but required forty annual trips, which it will be seen, reduced the rate to $8.51 per nautical mile. The subsidy was continued on the last mentioned basis until 1886, when the franchise granted to the company was renewed for fifteen years. From that time sailings were made weekly, and, as an incentive to the construction of larger and faster steamers, the government exacted not only a speed of at least 15 knots per hour, but allowed a bounty of $2.52 per gross ton for every tenth of a knot of speed in excess of the minimum 15 knots. The sum payable to the company in speed bounties, however, was not to exceed $231,600 and this amount has been paid in full ever since the year 1892. The subsidy was also raised to $1,057,640 per annum, or $9.57 per nautical mile. Adding together the amount paid as bounty for speed and that paid for subsidy, the company at the present moment receives $11.66 for every mile steamed.

NEW AND ENLARGED CHART OF THE STRAITS OF MACKINAC.

The U. S. Hydrographic Office, now merged in the Bureau of Equipment, U. S. Department of the Navy, has just issued an excellent chart on a large scale of the Straits of Mackinac, and extending from the coast line of Sturgeon Point, including Thunder Bay, on the east, to a meridian running through Point Betsie on the west. Of the various charts of the Straits of Mackinac this latest addition is without doubt the best. The new chart is as we have said, drawn on a large scale and measures about four feet by three feet.

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset by reversing the east bearings given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting:

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

Sunrise.	Bearing.	Bearing.
September 11	E. 6° N.	E. ½ N.
September 14	E. 4° N.	E. ⅜ N.
September 17	E. 3° N.	E. ¼ N.

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.

Sunrise.	Bearing.	Bearing.
September 11	E. 6° N.	E. ½ N.
September 14	E. 4° N.	E. ⅜ N.
September 17	E. 3° N.	E. ¼ N.

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Sunrise.	Bearing.	Bearing.
September 11	E. 6° N.	E. ½ N.
September 14	E. 4° N.	E. ⅜ N.
September 17	E. 3° N.	E. ¼ N.

LAKE SUPERIOR, LAT. 48° N.

Sunrise.	Bearing.	Bearing.
September 11	E. 6° N.	E. ½ N.
September 14	E. 4° N.	E. ⅜ N.
September 17	E. 3° N.	E. ¼ N.

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied, will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

COLLISION CASE.—LICENSE CANCELLED.

As a result of an investigation held by U. S. Local Inspectors of Steamboats Monaghan and Chalk, Duluth, Minn., in the case of a collision between the tugs George Emerson and Lyric, in which August Kruger was drowned, it was found by the evidence that the collision occurred between 9 and 10 o'clock on August 24th, 1898, in Tower Bay Slip, West Superior, Wis. The night was dark, but clear, and lights could be plainly seen. Previous to the collision the Lyric had been lying alongside the steamer Venezuela and heading towards West Superior. The Venezuela was lying at the Lehigh Valley coal dock in the slip mentioned. From the Lyric's position, the lights that were on her could not be seen by a boat entering the slip. When she left the Venezuela her wheel was put to starboard, and her engine worked ahead, it being the pilot's intention to turn around with a starboard wheel. When about half way across the slip she collided with the Emerson. The lights on the Emerson were burning brightly at the time and she had been proceeding at a moderate rate of speed. When the Lyric was first seen she was directly across the bows of the Emerson, and from fifteen to twenty-five feet off. The engine of the Emerson was backed strong the instant the Lyric was seen so that the Lyric was not struck with sufficient force to cause her to sink immediately. Three men on the Lyric were either thrown into the water by the concussion, or jumped in of their own accord.

The cause of the collision was the failure of the pilot of the Lyric to observe the necessary precaution of looking out to see whether or not a boat might be coming in before he attempted to start out across the slip from the Venezuela, as pilots are required to do by the provisions of Rule VI of the Pilot Rules, which directs that steamers must be run in the vicinity of docks, or wharves and managed with great caution, sounding the whistle as may be necessary to guard against collision, or other accidents.

For not observing the requirements of this rule, and for negligence and unskillfulness, violation of Section 4450 of the Revised Statutes, the license held by Herman Witt is revoked, and the case referred to the United States District Attorney for prosecution.

Pilot James Cole, of the tug George Emerson, was exonerated from any blame in the case.

POSITIONS IN THE LIGHT-HOUSE SERVICE.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 9TH DISTRICT,
CHICAGO, ILL., September 1st, 1898.

Notice is hereby given that a vacancy exists in the position of second mate in the Light-House Service, in this district, which includes Lake Michigan, Green Bay, and tributary waters lying west of a line drawn across the Straits of Mackinac at Mackinac Point, Michigan.

Persons who wish to apply for the foregoing position should obtain the proper blank forms of application from this office, either in person or by mail, and after filling them out return them to this office. Those who have already filed applications need not do so again. Applicants need not appear in person.

Thirty days from the date of this notice all applications received will be examined, the applicants graded according to merit, and a list of those eligible for appointment sent to the Light-House Board.

C. O. ALLIBONE,
Commander, U. S. Navy, Inspector 9th L. H. District,
Chairman Local Civil Service Board.

The sailing ship Peterborough, which left Zebu on April 2, has arrived in Liverpool with 2,000 tons of hemp on board. When the hemp was shipped it was worth $70 per ton; the present value of the cargo is, according to the market, $400,000, or $200 per ton. The increase of value was due to the Spanish-American war.

NEWS AROUND THE LAKES.

CHICAGO.

Special Correspondence to The Marine Record.

Grain freights continue on the basis of 1⅛ cents on corn to Buffalo, and an upward tendency on rates is looked for.

The Chicago Ship Building Co. have commenced building the new Chicago steel fire-boat, which is to be completed in a few months.

J. J. Rardon & Co. chartered the steamer Aragon for wheat to Kingston at 2½ cents, steamer Phenix for corn to Erie at 1⅛ cents.

R. E. Wilkinson, of Kenosha, who purchased the transfer plant of the Chicago Transfer Co., comprising the tug M. Shields and transfers No.'s 1 and 2, has the plant in full operation, with offices at 240 South Water St. The management are negotiating for the purchase of two additional barges, and are anticipating a very heavy movement of package freight this fall.

The Graham & Morton Co.'s side-wheel steamer, City of Chicago, with passengers for St. Joseph, became disabled by the breaking down of her engine when about 10 miles outside of this port. Engineer McClure immediately stopped the engine or the accident might have been attended with serious results. The City of Chicago was picked up by the City of Louisville, and towed back to Chicago. The engine of the steamer is so badly damaged that she will not go into service again this season. The Dunham Towing & Wrecking Co.'s tugs Morford and Mosher towed the City of Chicago to St. Joseph Monday night.

The whaleback excursion steamer Christopher Columbus, made her last trip for this season between Chicago and Milwaukee on Sunday. She took large excursion parties to St. Joseph on Monday, to South Haven on Tuesday, and to Michigan City on Wednesday, and then left for Mackinac and Lake Superior. The Columbus has put in an excellent season's work, and carried many thousands of pleasure seekers on her daily trips between this port and Milwaukee without any accident of any kind, and much credit is due to Capt. Smith and his officers and crew for the discipline and order maintained on board throughout the season.

J. B. Bates & Co., shipbuilders, made temporary repairs to the stern of the steamer I. Watson Stephenson, did some calking on the steamer Louisianna and barge Mautenee, some calking and repairs on the steamer F. H. Prince, some new outside plank on the quarter of the steamer Majestic, supplied new cat head, anchor stock, monkey rail, and cap to the steamer Majestic, some calking to the topsides of the steamer D. C. Whitney, and repairs to the steamer Chas. Rietz. The firm are making a large nnmber of 100-feet flag poles with top-masts, for the Chicago Board of Education, to be raised on the public schools in this city.

Four men, comprising the crew of the barge T. J. Bronson, whilst playing cards in the cabin last Friday night, were surprised by the entrance of two men who covered them with their revolvers, and demanded their money and valuables. The crew, who had that day received their wages, handed over all the money they had in their possession. One of them also handed over his watch, remarking at the same time that he would like to keep it, as it was a present from his mother. The robber, with a sigh, said, "I had a mother once," and handed the watch back to its owner. The robbers covered the crew with their guns and made their escape.

DETROIT.

Special Correspondence to The Marine Record.

The steamer State of Michigan was towed into St. Ignace, requiring repairs to the steam chest.

Labor Day was very generally observed here and there was little or nothing doing in the marine line.

The Chicago charter of the steamer State of Ohio expires on Tuesday next, and she will return to this port.

The steamer Mascotte went into dry dock this week for repairs. The Ed. Smith has been floated out of dry dock and is now nearly ready for business again.

The steamer J. H. Outhwaite and consort Barr are tied up at Clark's dry dock awaiting amicable arrangements or the outcome of the lawsuit between the owners and the insurance companies.

Capt. Napier, who was going to find the foundered hull of the Chicora, will have but little chance to do so after the fall weather sets in. He will probably defer his adventure until next season.

Manager B. L. Burke of the new Milwaukee, Kenosha, Waukegan and Chicago line desires to build a new and first-class steamer for the line and is trying to induce Waukegan merchants to take stock in the enterprise.

There has been a good deal of talk about the Star-Cole Line building a twenty mile steamer to carry about 3,000 passengers. The people are now educated up to the fashion of rapid transit and they want it when afloat as well as ashore.

The Canadian tug Ariadne, towing the wood scow Effort, attempted to cross the tow line of the steamer George Stephenson and consort Roebling at 7 o'clock Wednesday evening, when opposite Port Huron. The tug cleared the line, but the scow was caught amidship, cut half in two by the Roebling and capsized as she slid upon the cable. The crew of three on the scow were hurled into the river, but were rescued by the Kendall Marine Reporting Co.'s boat. The captain of the tug says he supposed both vessels were steamers, and attempted to cross the bow of the one astern.

There is a passenger steamer at this port, Chicago and St. Joseph, with engines that have wrecked themselves in the course of the last month, and in each case it has been a very general smash-up so as to put the boats out of service for the rest of the season.

Mr. A. A. Parker is rapidly improving in his health and will be all right again in a very short time. He is spending the summer at his country residence on the St. Clair river and when the weather gets a little cooler will no doubt be at his desk again as usual.

Firemen on tugs at Duluth had been getting $1.25 per day or $37.50 per month, and they asked a raise of 25 cents a day or $7.50 per month. This was granted, and for the balance of the season the firemen on the tugs in Duluth harbor will be paid $1.50 per day or $45 per month.

As the result of an accident early Monday morning on Lake St. Clair, the barge Montgomery, which was bound up with the barge T. H. Cahoon in tow, lies in 21 feet of water while her consort is in Clark's dry-dock with 15 feet of her forward bulwarks on the port side badly smashed in.

The Waukegan city council has let the contract for excavating the new ship canal in the harbor to Carkin, Stickney & Cram, of Detroit, at 12c. a cubic yard. The channel is to be 66 feet wide in the outer harbor and 120 feet wide in front of the city dock. The work will be completed by May 1.

Steamer Tourist, of St. Joseph, caught fire while lying at her dock Wednesday night, and burned to the water's edge. She was built two years ago for the trade up the St. Joseph river, and cost about $4,000. The fire started in the engine room and spread rapidly. Drake & Wallace owned the steamer.

The small steamer Scotia, which has been running between Amherstburg and Bois Blanc Island, appeared to be all right when the engineer left her Monday evening at her dock near Wigel's mills, Amherstburg. When he came down the next morning the boat was on the bottom with only the smokestack above the surface. The cause of the steamer's sinking is unknown.

Capt. Joseph Rouleau says that in the event of the discontinuance of the range lights heretofore operated by Arthur Rains at Sailors' Encampment, he, Capt. Rouleau, will put in three float lights at that place, on the black stake side, so that vessels can pass up and down without trouble. These proposed lights will be even more valuable than the range lights, as they will show the principal turning points in the cut.

The whaleback steamer Christopher Columbus is winding up the season by calling at nearly all ports between Chicago and Duluth and giving the people a final excursion. There are various rumors afloat about the route the whaleback will be put on next season, but it is likely that she will take up her old trail between Chicago and Milwaukee again. Her season record is 125,000 passengers carried between those ports, with her last cruise yet to hear from. The Columbus will winter at Manitowoc with the Goodrich fleet.

A few days ago the Evening Wisconsin mentioned several instances of dispatch given to shipments from Chicago and Milwaukee to Montreal via the new Canada-Atlantic lake and rail route. Here is another: Last week the Cudahy Packing Company entrusted ten carloads of meat to this line with the understanding that the shipment must leave Montreal for transfer across the Atlantic on Sept. 3. This freight was placed upon one of the Canada-Atlantic liners at Milwaukee August 29, and four days later, or on September 2, was snugly stowed on the Dominion line steamship Labrador for the Atlantic voyage. This is an instance of dispatch hardly ever equaled by any other route, either lake and rail or all rail.

Col. Lydecker says that the depth in the Limekiln cut is greater than either above or below it. The depth will probably not be made uniform until the cut is widened from its present figures, 440 feet, to 600 feet, as he has suggested in his annual report. The removal of a number of 15 and 16 foot shoals in the American channel abreast of Stag Island will be finished in two weeks, and then all vessels will find a much wider channel than on the Canadian side, which has been solely used by the larger craft for many years. The depth is uniform with that on the Canadian side, 40 to 50 feet. It is probable that vessels will agree on some plan by which upbound boats will use the Canadian and downbound boats the American channel, thus allowing all to keep to the right, and further insure against collisions.

Following are transfers of vessel property recently recorded at the Grand Haven customs office: Steamers Wisconsin, Nyack and tug O. M. Field—Caroline Ninnemann to Gottlieb C. Ninnemann, one-eighth nominal consideration. Steamer Charles McVey—Elizabeth J. and James W. McVey to Wallace B. Griffn and E. S. Perriman, one-eighth, $2,600. Steamer Saugatuck—John Niles, of Holland, to E. S. Perriman of Saugatuck, one-fourth, $2,800. Steamer Onehema—Oscar S. Sheriffs to H. Montague, of Traverse City, the whole $3,336. Schooner Mary E. Cook—Edward Ballantine to John M. Ballantine, of Little Harbor, the whole, nominal consideration. Schooner Walhalla—W F. Gill of Gill's Pier, to William W. Preston, of St. Joseph, nominal consideration. Steamer Waukon—George T. Arnold to Island Transportation company, the whole, $12,000.

BUFFALO.

Special Correspondence to The Marine Record.

The steamer C. F. Bielman struck something harder than her bottom in the harbor on Tuesday and damaged her rudder.

The steamers Mecosta and Street were dry docked this week the first for overhauling and repairs and the Street for a new wheel.

Labor Day, (Monday), broke into the week's work at this port and there was neither chartering, loading or discharging of vessels and all hands seemed inclined to take a day off.

The barge Amboy consort of the Veronica fetched up in Niagara river near Germania park and as she could'nt be towed off with three tugs she was lightered of 220 tons of her ore cargo and then taken in tow for Tonawanda.

The present cold snap has in a measure hurt the excursion steamers and the crowds are nothing like so big as they were only a week ago, there will of course be a lot of nice weather yet, but it is on the very hot days that people seek the lake breeze.

Edward B. Clark general agent for Michigan of the Great Northern railway and Northern Steamship Co., has been promoted to the position of freight agent at Pittsburg. The Pittsburg office is the third in importance of the Great Northern system.

Capt. M. M. Drake presented at a meeting of the Board of Trustees of the Buffalo Merchants' Exchange, a few days ago, a resolution thanking Harvey D. Goulder, Esq., of Cleveland, for the successful manner in which he represented the vessel interests of the lakes in the matter of war tax on charters. The resolution was unanimously adopted.

In addition to the case of the barge Mabel Wilson mentioned recently, proceedings to recover demurrage claims on three additional coal cargoes delivered to R. P. Elmore & Co , of Milwaukee, has been instituted. The vessels concerned are the steamers A. Folsom and Iron Chief and barge Iron Cliff. The court will be called upon to determine whether agents with blanket charters have the right to bunch fleets to single consignees without regard to the handling capacity of the yards of such consignees whenever freight conditions indicate an advance.

The towing power of the tug C. F. Dunbar, was tested this week by several professors and students of the Cornell University, the purpose being to demonstrate the practical working of the new Golden wheel. The Dunbar is used for the reason that she was built for the business she is engaged in, viz: the towing of scows loaded with gravel from the head of Strawberry Island to the breakwater extension. As soon as a report is made the new wheel which is of steel and cast in Detroit under the direction and patterns furnished by Mr. Golden, will be placed on the tug and another test made. The Golden wheel it is said has increased the speed of the Governor Morton fully 40 per cent. and it is thought the Dunbar will be able to do fully as well; however, after the scientific test has been worked over, and efficiencies as well as deficiencies calculated upon and half a dozen other tests made the Dunbar may be fitted with a wonderously efficient screw.

Erastus Wiman is in Buffalo, still deep in his project for the erection of a great stock company, that is to carry flour on the canal by the million barrels. Mr. Wiman has somewhat modified his original plan and says that he can get ready for business next spring. He has a contract with western millers for the shipment by canal of 1,000,000 barrels of flour a year for three years and is waiting for the money to come with which to buy boats and build flour sheds at Buffalo and New York. The plan now is to buy boats instead of building them. A fleet of ten steamers, each with five consorts, is to be bought, so that about two tows could be loaded a week. All that is needed is $500,000, instead of the millions at first figured in the plan. Mr. Wiman says he has considerable of this raised and will get it all. Next spring will see him caraying flour on the canal, he is positive. Many of the canal boatmen who at first opposed Wiman's scheme are now convinced that it will not hurt them and would be glad to see it go through.

CLEVELAND.

Special Correspondence to The Marine Record.

Monday was observed as a holiday and but little work was carried on at this port.

Capt. John McKeighan who was injured on his vessel, the schooner J. J. Barlum at Fairport a few weeks ago, is convalescent.

The Ship Owner's dry docks are being kept quite busy putting vessels into condition for the fall trade, and attending to the usual dry docking business of the port.

Vessels have already had to seek shelter from a hard blow, and as the season advances good safe anchorage will be oftener looked for than is usual during the height of the season.

From present indications the season's shipments of iron ore will amount to nearly fifteen million tons, already there in an advance of between two and three million tons on last year's output.

The Northern Transit Co., running between Detroit and Ogdensburg, and owned at this port, have met with a favorable reception and large patronage on this their first season. It is likely that the line will be added to next year, and at least one, if not two, more boats purchased or chartered for

the route. Farasey & Marron are the general agents here, and much of the popularity and brisk trade of the new line is due to their experienced and skillful handling of business.

Detroit dumps its garbage at the mouth of the river, the surface current is generally easterly. What effect, or what portion of the thousands of tons of this garbage reaches the south shore ports?

Capt. Benham has returned home after quite a stay in Detroit watching the repairs on the steamer Edward Smith in the interest of her owners. The total damage is estimated at costing something over $10,000 to put the vessel in as good a condition as previous to the collision.

The mate of the steamer State of New York wants it understood that he was in no way responsible for the collision of that steamer with the Henry Cort in July. He was asleep at the time, and only awoke to find the passengers being taken off by the tug L. P. Smith, Capt. Dahlke.

The United States Secretary of State took a trip this week on the Mutual Line steamer Corsica. On reaching the Straits of Mackinac they experienced a snorter from the Northwest, and the Secretary of State has probably more respect for these inland sheets of water than he previously had, although the Corsica is one of the best boats on the lakes.

The mate and cook of the schooner H. P. Baldwin got spliced this week at St. John's Cathedral, and they will continue sailing in the Kelley Island stone trade until the end of the season. River street has seldom been paraded by a prouder couple than the sailor and sailoress thought of themselves on going to and from the sky pilot's quarters up town.

Capt. Adolph Oldorff, master of the steamer Vulcan, who has been missing for some time past was arrested here this week on a charge of shooting. It is claimed that he attempted to shoot an officer who placed him under arrest for annoying his wife, from whom he has been separated. He seems to be unable to explain why he left his boat or where he has been.

Bids for the purchase of Lorain's $35,000 worth of river improvement bonds were opened on Tuesday, and the following sums were bid: W. J. Hayes & Sons, $35,150; Denison, Dietz & Prior, $35,585; Spitzer & Co., $35,371; Briggs & Co., $35,612; J. B. Haye, $35,423; First National Bank, Columbus, $36,774.50. The finance committee may reject all the bids on account of the small premiums offered. Some of the bidders failed to bid strictly according to the specifications.

FLOTSAM, JETSAM AND LAGAN.

The Bertram ship yards were practically destroyed by fire early last Friday morning. The steamer City of Toronto, in the final stages of completion by the Bertram company for the Richelieu and Ontario Navigation Co., was saved with great difficulty. The loss is placed at about $70,000. The company employed over 200 men.

Mrs. Mary Doullut, wife of Capt. Doullut, a boat builder of New Orleans, has passed a brilliant examination as a steamboat pilot, and is a member of the American Association of Masters and Pilots, having been admitted unanimously on a high rating as to knowledge and bravery. Mrs. Doullut has been married fourteen years, and most of that time has been spent with her husband on the water.

Albert Gibbs and Carl C. Joys, under the firm name of Gibbs & Joys, are successors to the firm of R. P. Fitzgerald & Co., Milwaukee, who have been in the vessel business for about forty years. Messrs. R. P. Fitzgerald and J. B. Merrill gained and maintained a reputation as one of the best business houses in the lake trade, and their successors wish to sustain and emulate the standing of the old firm.

The Ogdensburg Journal tells an amusing story of a farmer from the Canadian side who was an unwilling passenger last week. The farmer boarded the boat at Kingston with some baggage for a friend. He tarried too long and when he made for the dock the gang plank was in and there was a good stretch of water between the boat and land. His team was standing at the upper end of the dock. When he found that he could not get off he was in despair. Dancing around in the most frantic manner possible he shouted: "I want ter git off'n this here boat an' I wan't ter git off right now. I've got a fam'ly to home an' when I don't git back do you know where they'll think I am? They'll think I'm in hell. I say I've got ter git off'n this here boat. My gosh, don't yer understand me?" The farmer was carried to Oswego and given a pass back home the next day.

The firm of Andrew J. Morse & Son, Boston, Mass., claim to be the oldest house in the business of manufacturing diving apparatus in the United States, (established 1877), and for many years they have furnished the United States Navy Corps of Engineers, U. S. A., as well as the leading wrecking and salvage companies, bridge and dock builders, with their complete outfits. As is usually the case with representative and thoroughly responsible houses, the firm of Andrew J. Morse & Son will not compete with a cheap manufacture; they prefer to place nothing on the market but the best quality of goods, such as they have gained their reputation with, and this standard is to be maintained, while prices will be kept as low as safe, reliable and durable work can be furnished their patrons. This feature of their business is of vital importance to those who work under water and the firm of Morse & Son hold an enviable record in the durability and efficiency of their manufacture for submarine work so that it is now generally understood that the complete outfit to use must be of the best quality; hence the best apparatus is not only the safest to use but it is also the cheapest.

A sailor taught a parrot to gabble at a pretty lively rate during a homeward voyage. On landing, the parrot was left in a place with a couple of dogs, and its chattering got the dogs excited and finally to barking, snapping and biting at each other, the parrot enjoying the scrimmage hopped out of the cage down to a chair the better to witness the excitement and to further irritate the dogs; presently one of the dogs made a grab at Polly and before she, or it, could scramble to an elevation out of the reach of the dog, she was minus her tail and wing-feathers and was generally demoralized. Perched on a shelf she looked herself over very critically and then with her head cocked and rolling from side to side she said in a deplorable, mournful sort of a tone of voice. "I know what's the matter with me!" "Know what's the matter with Polly;" "I talk too d——m much, talk too d——m much," and Poll might have added, yes, and there are others, for instance, the late chaplain of the Oregon who is about being court martialed for the same offense as the parrot was guilty of. He is said to have accused Capt. Robley D. Evans, (Fighting Bob), of cowardice and slurred naval officers generally, moreover, he had a notion that he knew how to divide prize money better than the courts could. There's a moral to this!

AN ENGINE WRECKED.

When about ten miles foom Chicago on Sunday night, en route for St. Joseph wlth a number of passengers, the Graham & Morton sidewheel steamer City of Chicago wrecked her engine almost completely. The crash startled the passengers into a panicky condition, and it was with the greatest difficulty that their fear could be allayed.

The disabled steamer was towed back to Chicago and thence to St. Joseph for repairs. The cost of replacing the broken portions of the engine is estimated at $25,000. The mishap will put the steamer out of commission for the remainder of the season.

The wreck of the engine was caused by the giving way of the crank pin strap. This led to the breaking of the low-pressure cylinder, walking beam and all of the working parts except, perhaps, the high-pressure cylinder. Even this may be found fractured when a more critical examination is made.

EASTERN FREIGHTS.

Messrs. Funch, Edye & Co., New York, in their weekly freight report to the RECORD state as follows:

We are much pleased to be able to announce that our market has advanced, and orders for full cargoes of grain now permit of 3s. 1½d. to Cork f. o. for handy-sized tonnage, ready not before the 10th September, in order to fit the receipts of grain. Owners, however, are holding off for such business, and, as tonnage of suitable size is quite scarce, considerably higher rates may be looked for. Berth freights are just showing a strong awakening, and large steamers can now procure 2s. 9d. to picked ports, with the general cargo privilege, or 2s. 7½d. for entire cargoes of grain. Slightly better figures have been reached for deals, but timber freights are dormant, owing largely to the fact that charterers do not appear to realize that markets have at last reached the turning point. Cotton tonnage for late September from Atlantic seaboard is in fair demand, without, however, much being accomplished so far. Some further coal engagements have been consummated at slightly enhanced prices.

Our market for sailing vessels does not show any signs of returning animation. Business remains exceeding quiet, and, though tonnage is not plentiful, little has been accomplished. The reduced rates for case oil naturally prevent a livelier business in that line, while the low rates of freight accepted by steamers to the Colonies operate, of course, against sailing vessels.

In lumber, timber and naval stores there has been some business, but rates continue slow.

THE SIMPSON PATENT DRY DOCKS.

Mr. James E. Simpson, the inventer of the system of dry docks bearing his name (who died Oct. 27, 1897, at the age of 84) was a practical shipbuilder of Boston, Mass. Having large interests in shipping, in the year 1853 he conceived the idea of constructing a dry dock capable of receiving, with safety, for examination and repair, vessels of every class, either with or without cargo. The result of his study and experiment was the timber dry dock at East Boston, Mass., completed in 1854.

He continued to build dry docks, improving the construction from time to time, as the requirements changed, until now there are fifteen of these docks on the Atlantic coast, monuments to his skill and enterprise.

Since 1870 his sons have been associated with him, the style of the firm being J. E. Simpson & Co., to the business of which firm the Simpson Dry Dock Company has succeeded.

The necessity for the immediate construction of dry docks of suitable dimensions for the use of the battleships of the U. S. Navy, and the controversy which has arisen as to the proper style of dock to be authorized by Congress, has induced this firm to prepare a very interesting brochure containing a history of the naval dry docks of the United States, their original cost and cost of maintenance, together with a statement, supported by statistical facts, and the opinions of experts, showing the superiority of properly designed timber graving docks over all others.

DETROIT MARINE POST OFFICE.

LETTERS REMAINING ADVERTISED IN DETROIT, MICH., POST-OFFICE SEPTEMBER 7, 1898.

To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Boyle J., Str. Argonaut.
Blomhoist Gustah, Schooner Hattie Wells.
Brown Emory, Sch. E. L. Cayne.
Brown, W.
Bomp Henry P.
Carrier Louis, 5
Cross W. H.
Camble Mrs. W. J.
Connors Jim, Str. Parnell.
Campbell Ida
Crosby W. C., Bge 109.
Christenson W. J., Str. Forbes.
Crockett Wm., Str. Bermuda.
Collins Wm., Str. Bermuda.
Cottrell Richard J.
Dandy Capt. W. J., Sch. Crosthwaite.
Duquis Jos., Sch. Magee.
Dues Peter H. Jr., Str. Palmer.
Doyle Pat. M.
Denton Leslie.
Gleason E. V.
Gates Clark D.
Huskinson Charles, Str. Gratwick No. 2.
Hodges Walter.
Hunter Wm.
Holbrook Orlo, Bge. 115.
Hentz Chas. F.
Jenson Peter.
July W. J., Str. Cumberland
Keller, C. B.
Loughwat Octave.
Layman Geo.
Leonarde Mr.
Mitchell James
Malcomson James B.
Mason Jos.
Marsh Du Aue H., Str. Cambria.
Muir I. W., Str. Gratwick.
Merock John, Str. Hackett.
McWade, C. E.
McDonald Albert.
McIntyre James.
Peters John, Str. Gratwick No. 2.
Patterson Cecil.
Palmer Edna, Str. City of Toronto.
Potter Albert, 2
Reilly Frank.
Shanahan Capt. James
Summer C. H., Sch. Magee
Smith Mr. & Mrs. Merritt S. Str. Ericsson
Sherman Bert F., Str. Clyde
Tonneson Conrad
Thompson Arthur, Str. Clyde
Thomas John, Sch. Filer
Truman Orin, 2
Thomas Geo.
Tardiff Joe
Tetes James, Str. Saturn
Wilson Geo.
Watts Richard

F. B. DICKERSON, P. M.

RACING RULES FOR THE AMERICA CUP.

The conditions agreed upon for the international yacht race for the America cup are as follows:

The match to be decided by the best three out of five races. Starting from Sandy Hook lightship.

First race to windward or leeward and return.

Second race, equilateral triangle.

Third race, similar to first race.

Fourth race, similar to second race.

The course shall be as nearly as possible 30 nautical miles in length.

The challenger shall be informed at least one week before the first race what vessel is to defend the cup.

The system of measurement, time allowance and racing rules of the New York Yacht Club to govern the races, except as hereinafter modified.

The first race shall be sailed on Tuesday, October 3, 1899, unless the Shamrock should be detained by stress of weather, or other cause in which case three weeks shall be given her for fitting out after her arrival, but the first race shall not be started later than October 10, 1899, and the races shall be sailed on Tuesdays and Saturdays until completed.

The competing yachts shall be measured with all of the weights, dead and alive, on board which they intended to carry during a race, but shall not have on board more persons, all told, during any race than three for every five feet of racing length or fraction thereof. Waste or water tanks, if carried, must be filled with water at the time of measurement.

The restriction of the New York Yacht Club as to floors, bulkheads, doors, water tanks to be waived.

If either yacht by alteration of trim or immersion by dead weight increases her load water line length or in any way increases her spar measurements, as officially taken, she must obtain a remeasurement by special appointment before the next race.

If either yacht decreases her measurements for sailing length in any way in order to profit thereby in time allowance, in any race, she must obtain a remeasurement by special appointment before such race.

Distinct marks shall be placed at the load water line at the bow and as far aft as possible on each vessel.

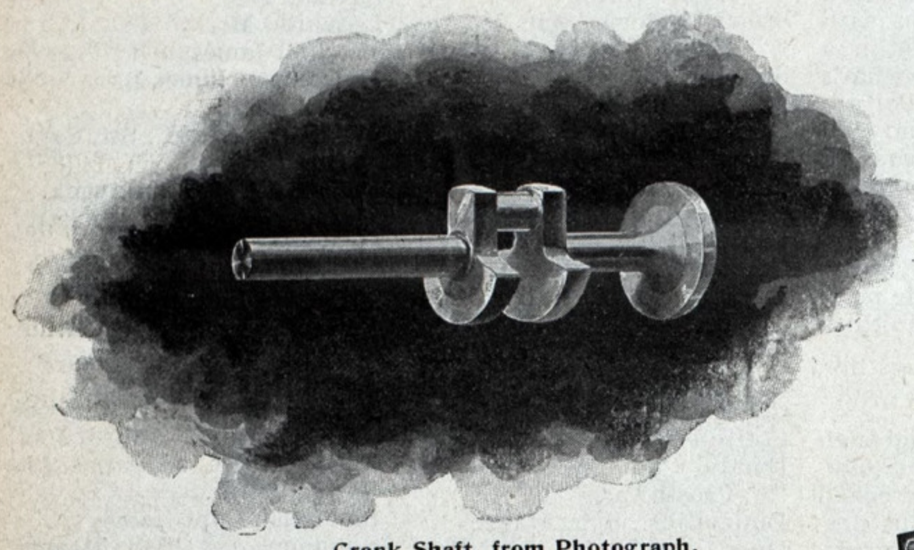
The following statement was made on behalf of the New York Yacht Club:

"The committee of the New York Yacht Club in announcing the conclusion of the negotiations wish to particularly draw public attention to the act of Congress passeed in 11896 under which the United States Government has power to formulate and enforce regulations for the purpose of ensuring a clear course and the safety both of the spectators and the contestants, and the committee confidently appeals to those wha may attend the race to assist the authorities by strictly carrying out such regulations. The growing popularity of the race and the consequent increase in the number of the spectators renders it absolutely essentian in their interests and in the interest of both contestants that all regulations the authorities may publish shall be strictly adhered to."

MARINE STEAM ENGINES.

5 TO 10 INCH CYLINDERS.

The accompanying engraving of small, high speed marine engine is taken from a photograph of one recently built by the Marine Iron Works, Chicago, and clearly indicates to the critical observer wherein the recognized superiority of design exists, and why the frequently severe conditions that any marine engine is sure to undergo, are met successfully and easily. Note position of crank shaft, form of bed plate, liberal length of connections permitted without carrying the



Crank Shaft, from Photograph.

cylinder an inch too high. Easy access to all parts. Certainty of firm foundation and accurate lining up. All of which serves to make a certainty of smooth, steady action under high steam pressure and resultant piston travel.

The crank shafts, being steel forgings, are slotted out from the solid, and including the counterbalance and coupling flange, are one continuous piece, no building up or bolting on of any part. Connecting rods are also steel forgings, and in proportion to the crank shaft dimensions. Following are the principal details of seven sizes as built by the Marine Iron Works :

Diameter of Cylinder. Inches.	Length of Stroke. Inches.	Height above Foundation Timbers. Inches.	Diameter of Crank Shaft. Inches.	Diameter of Crank Pin. Inches.	Steam Inlet. Inches.	Approximate Weight. Pounds.
5	5	34	1¾	1¾	1	375
6	7	40	2¼	2¼	1¼	660
7	7	42	2¼	2¼	1½	715
8	8	48	2¾	2¾	2	800
8	10	62	2¾	2¾	2	1,400
9	10	63	3	3	2½	1,775
10	10	64	3¼	3¼	2½	1,900

Crank shaft in line with top of foundation timbers.

The cross-heads have adjustable bronze slippers. All wear on reversing link and link block is adjustable. The quadrant is double, and the reverse lever fitted with central connection on each side of the link prevents lateral strain, and adds years of good service to the engine.

Although anyone ordering an engine, may, in good faith accept (along with a low price) a statement that "those little features" are of no benefit except to talk upon, the engine which lacks them enters a noisy protest before its first season closes, and earnestly begs to be run slow just at a period, by the way, when its "well put-up" neighbor is doing double duty without a murmur, and making that little saving in first cost appear irritating. Even a poorly built engine, in bad condition, can be forced to "run" if enough steam and engineering talent is applied, but between merely keeping in motion and high efficiency there is a wide margin.

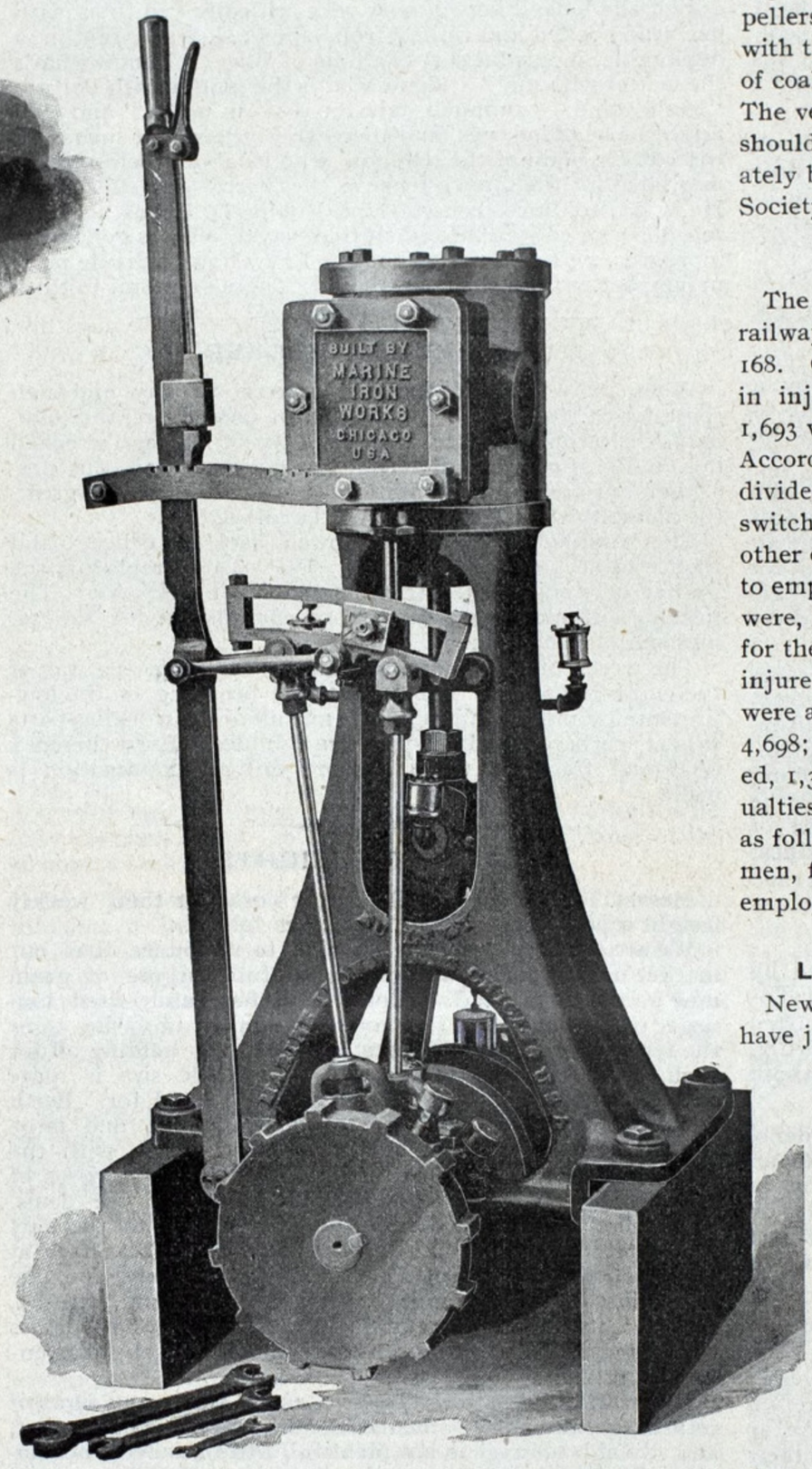
It is to the advantage of the buyer to have the entire outfit of driving machinery built by the one concern, provided they do all the work, without subletting portions of it, or at least to have the propeller shaft, thrust bearing, stern bearing, stern tube, stuffing box and propeller wheel made by the engine builder, so that all parts will harmonize.

PROPELLER WHEELS.

The Marine Iron Works state that they are often in receipt of letters congratulating them on the success of their propeller wheels, and not infrequently from those whose judgment on the subject is unquestioned. As a matter of fact, however, the success is, we think, largely attributable to care in fitting the conditions in each case, rather than anything unique or very unusual about the patterns, none of which are patented or present startling conformations.

The too general use of some one certain pattern, no matter how good it may have proven in a few instances, is accountable in a very great degree for the rank failures of propeller wheels that are sometimes met with, and although we have many entirely separate and distinct patterns for each of our standard diameters of propeller wheels, we are constantly adding new patterns in the same sizes, in order to properly fit some unusual combination of machinery, hull, draft of water, revolutions per minute, service required, etc.

It is an easy trick to take what has proved beyond a chance for an argument to be the very best possible wheel on some certain boat and transfer it over to a "somewhat similar vessel," where it would prove entirely unsatisfactory, the changed conditions accounting for the remarkable difference; hence, the number of patterns it is necessary to carry for each diameter and style of wheel and the care that we must exercise in making the selection.



If correspondents will be particular to state the duty required—whether for ordinary cruising, towing or speed purposes. The Marine Iron Works will guarantee a wheel to suit.

A GIGANTIC RUSSIAN ICE CRUSHER.

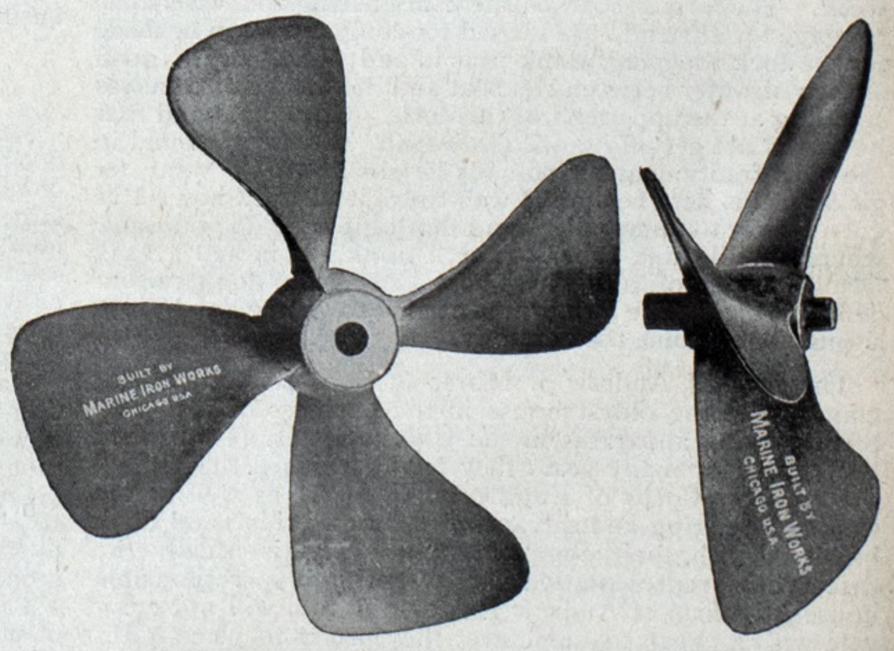
The fact that representatives of the Russian government visited the United States to inspect the ice crushers in use on the lakes, and that officials of the Detroit Dry Dock Co. went to St. Petersburg for a conference on the same subject, lends interest, on the part of lake marine men, to the gigantic ice crusher which the Russian government is now having constructed in England. The vessel is intended for use in keeping an open navigable way during winter to Cronstadt and St. Petersburg, and in summer is to be stationed in the Kara Sea, to keep open a way for vessels trading with North Siberia. Some idea of the magnitude of the crusher now building may be gained when it is stated that at present the most powerful vessel of this type in existence is the Nadeschny stationed at the port of Vladivostock in Russia. Her cost was $225,000, and she is provided with engines of 3,600 horse-power, which enabled her, at her trial last year in the Gulf of Finland, to force her way through ice very much thicker than that which is encountered in the Straits of Mackinac by the vessels built at Detroit. The vessels now in course of construction, however, will have engines of 10,000 indicated horse-power and will cost $875,000. She will not only have a double bottom throughout her whole length of 305 feet, but will also be provided with a double skin up to a few feet above the water line, with a space of about 3 feet between the skins. She will have four sets of engines of a special make, one set being located forward for working a plurality of screw propellers, and the other three will be placed aft and connected with three screws. Bunkers will be provided for 5,000 tons of coal, and the daily consumption being about 161 tons. The vessel is to be finished by the end of the year, and should her trial trip prove successful, the keel will immediately be laid for a sister ship.—Journal of the American Society of Naval Engineers.

RAILROAD ACCIDENTS.

The total number of casualties to persons on account of railway accidents for the year ended June 30, 1897, was 43,168. Of these casualties 6,437 resulted in death, and 36,731 in injuries of varying character. Of railway employes, 1,693 were killed, and 27,667 were injured during the year. According to the three general classes these casualties were divided as follows: Train men, 976 killed, 13,795 injured; switchmen, flagmen and watchmen, 201 killed, 2,423 injured; other employes, 516 killed, 11,449 injured. The casualties to employes resulting from coupling and uncoupling cars were, killed, 214; injured, 6,283. The corresponding figures for the year ending June 30, 1896, were 229 killed and 8,457 injured. The casualties from coupling and uncoupling cars were assigned as follows: Train men, killed, 147; injured, 4,698; switchmen, flagmen and watchmen, killed, 58; injured, 1,325; other employes, killed, 9; injured, 260. The casualties resulting from falling from trains and engines were as follows: Train men, killed, 325; injured, 2,726; switchmen, flagmen and watchmen, killed, 32; injured, 357; other employes, killed, 51; injured, 544.

LAKE SHIPBUILDING AND COMMERCE.

New York Mail and Express: Two gigantic wheat ships have just been launched on the Great Lakes, which show not only the tremendous development of lake commerce, but the fact that the lake shipyards are capable of turning out ships as large as can be built anywhere in the United States. The S.F.B. Morse, just completed at Bay City, is 476 feet long and of 10,500 tons burden. The whaleback Alexander McDougall, just launched at Superior, is twice as large asany boat of that unique pattern hitherto attempted. She is 460 feet long with 10,000 tons displacement. She will carry a cargo of 250,000 bushels of wheat, the produce of from 16,000 to 18,000 acres of land. Few Americans realize the tremendous bulk of our lake commerce. More commerce passes the "Soo" canal than the Suez, and the volume of freight passing through the St. Clair river at Detroit is greater than the entire business of the port of New York.



Propeller Wheel built by Marine Iron Works, Chicago.

The Detroit Journal was fifteen years old on Thurs last and celebrated the event by coming out in 24-page printed in three sections. A handsome illustrated s ment, showing a view of Detroit from the river, was inc ed with the issue.

A MISERABLE ST. LAWRENCE RIVER ROUTE.

CLEVELAND, SEPT. 7, 1898.

To the Editor of The Marine Record:

I made a trip, recently, down the St. Lawrence to the far-famed Saguenay river and up that river to Roberval on Lake St. John. The country is most delightful, all that is claimed for it, and the passenger travel increases each year, much of the patronage coming from Americans. It is a pity, however, that the accommodations by boat after leaving Quebec are miserable, so much so that I deem it a duty to give to those who may be contemplating a trip of this kind at any time in the future an account of our unfortunate experience (there was a party of five of us from Cleveland) in returning from Chicoutimi on the Richelieu & Ontario Navigation Co.'s steamer Caroline, which is an old boat, alike to the other steamers of the service.

At Montreal we placed ourselves entirely in the hands of the representatives of the Richelieu & Ontario Navigation Company. It was our intention to go one way by rail and the other by steamboat, but under "advice" from Traffic Manager Geo. H. Browne, and the Montreal ticket agent of R. & O. Nav. Co., who were, of course, working in the interest of their vessels, we were prevailed upon to take the river route both ways. This was our great mistake. I paid $113 for transportation both ways, for subsistence and for three state rooms to Chicoutimi and back to Quebec, with no question on our part as to the charges so long as we were assured that we were fully provided for. We did not go into details, as the agent was to simply charge all that was required for the best accommodations on the trip. We had hardly begun the trip when at Quebec we found difficulty in securing the rooms that had been assigned to us. Here we submitted to the purser our entire collection of tickets, and he did not return to us, as the traffic manager afterward admitted, the stateroom tickets for the return trip, which he should have given us. On the way up I became acquainted with the captain of the vessel and arranged to wire him before our return, so as to be certain of stateroom accommodations. I was to wire him at Murray Bay, but in order to be more certain of securing the rooms, the telegram was forwarded to Quebec, farther up the river, and was received by the captain at that point and turned over to the purser. But we had made the mistake of paying for round-trip accommodations, and the purser, the same official who had arbitrarily taken from us our room tickets for the return trip, was evidently operating his part of the vessel with a view to taking on passengers everywhere and getting all he could out of them without regard for those who had paid for round trip accommodations with the expectation of being fairly treated. When the boat arrived at Chicoutimi, the head of navigation on the Saguenay, we were hurried out of the hotel at 4 o'clock in the morning, to find that there were no rooms for us on the return trip. The captain who was obliging in many ways as a result of the acquaintance we had made with him, offered to give us the use of his room during the day, but we had a night before us, and we soon found also that rooms were being provided for passengers who had not even taken the precaution of telegraphing for them. It was evident that we were victims of ways that are strange with pursers, and that the passenger who was to have what was due him would be called upon to fight his way through. I told Traffic Manager Browne later that if I had known it was necessary to "fix" the purser I would have done so willingly, as one of our party was sick and was compelled to creep into a bunk in what I think was called the "ladies' steerage." I pitied several ladies who were compelled to sleep there. Many sat up all night. The timid passengers and the ladies, who had no one to force matters for them fared badly. At every meal there was a jam at the dining room and many of the passengers went away without eating rather than stand a half hour or more in line and be subjected to other indignities. Arriving down at the mouth of the Saguenay, I concluded to leave the boat, as at a place called Riviere Du Loup it was possible to take the Grand Trunk Railway. My opinion of the service and the conduct of the purser was given in no uncertain terms. The purser then made a great display of preparations to care for our party and provided a couple of rooms, but we were compelled to pay for them and we were therefore $10.25 out on the trip in the matter of staterooms, for the same purser who had taken our tickets for the return trip now compelled us to pay a second time for the rooms.

I have gone into detail in order to give the facts in this case on account of the tendency among people from this part of the country to spend a holiday down the St. Lawrence and with the hope that something may be done towards improving the steamboat service.

It would certainly seem that there is a great opportunity for a new line to this beautiful country, to be operated in connection with the Toledo, Cleveland and Ogdensburg service and other lines reaching the upper part of the St. Lawrence.

THOS. WILSON.

REMINISCENT NOTES.

LONDON, ONT., Sept. 6, 1898.

To the Editor of the Marine Record:

I notice in the issue of the Marine Record of Aug. 25, an interesting interview with Mr. Henry C. Barter and Capt. J. M. McGregor, of Detroit, and, while, with the light of our present experience their remarks look far-fetched, I myself, can vouch for their accuracy. They, however, missed mentioning quite a number of square-rigged vessels that were floating around the lakes half a century ago. I was master of the Rialto; then there were the brigs John Kenzie, Rocky Mountain, John Hancock, of which Capt. Goulder had charge; and in those days he sailed some of the finest vessels on the lakes. I see from the columns of the Record that his son, Harvey D. Goulder, Esq., is also turning out a very bright man. His father was at the top of his profession, and the son, if not there already, is getting there hand over fist, if I can judge aright at this distance.

In passing over the flats in those days we had the little tug Rome lashed alongside and she would tow us over the flats one at a time. I knew Jacob Peer and his ox teams. Indians were numerous those days and beside the oxen we would have a string of about fifty of them laying back on lines made fast to the mastheads. We paid Mr. Peer $6 for a tow and the Indians a breaker of whisky, for it only cost eighteen cents a gallon then.

I have noticed one or two articles on waterspouts, and we had them in the old days all right enough. I remember, in June, 1845, I was anchored off Port Burwell loading lumber when a waterspout struck the beach close to us. Sticks of timber were thrown on the bank 12 feet high, four schooners drove ashore and lumber was scattered all over the country, for with the waterspout was a sort of a tidal wave. The steamer Constitution had her wheel house and upper deck stove in as well as three hands killed through getting near to a bursting waterspout some years previous to the time I speak of. At another time, or in Sept., 1861, I was lying under Long Point when a waterspout bursted near us and there was such a commotion in the water that my vessel walked away with her anchor. I don't know whether there was a submarine earthquake at the same time or not, but the anchor came home very easily. At another time we sighted three waterspouts in one day passing close to Kelleys Island; one passed about half a mile from us.

I once had a negro cook, a full blooded one; charcoal would have made a white mark on him. He was a character of the day and age I suppose. He had an open caboose to cook in; no friction matches those days, but instead the tinder box, flint and steel. We used to have some brimstone matches though and light our fire with a handful of oakum, but the circus came on when about meal time she would ship some water and put his fire out. He was only happy when cooking and sleeping.

The Record printed the log of a canal boat some time ago. Now in my days canal boats for New York City had to pass through Tonawanda creek. That was their hard weather and serious part of the navigation. When they got a stiff breeze they would reef down in this way. They took two extra half hitches in the towline, then reduced speed by stepping ashore and keeling over the best mule, they were then under snug canvas for the night. Oh but the stories they used to tell about that dangerous reach would make a novice shiver. The captain would tell the man at the tiller to keep her featherly feather half feather, in this way: They had a lamp on each bow and large reflectors; fitted in front of the lamps was a quill set in the deck. The man steering did not see the lights, but he would catch the shadow of the quill at either side; so the quill was utilized on a dark night as a compass or steering guide. I should like to tell your readers something more about the brunette cook and his ologies and antics, but the letter is getting too long already.

Yours truly,

CHARLES GALE.

STEAM TOWING MACHINES ENDORSED.

WEST BAY, MICH., AUGUST 26, 1896.

Mr. Frank S. Manton, Agent, Providence, R. I.

Dear Sir:—Replying to your favor of the 15th inst. asking us as to the results we have obtained from the use of the steam towing machines manufactured by your company, will say, that as you know, we have put these steam towing machines on the following boats:

Car Ferry No. 1.
Car Ferry No. 2.
Steamship Rappahannock.
Steamship Sacramento.
Steamship Amazonas.
Steamship Orinoco.

We are well pleased and satisfied with the results obtained. These towing machines are very strongly and substantially constructed in every way, and they were evidently built for good hard service. Our steamships having these towing machines always tow one large schooner consort. Sometimes they have two, and sometimes three large consorts, and the combined cargoes of this tow amounted to upwards of 14,000 gross tons. The automatic attachment wherein the steel wire hawser is paid out when the towing schooner encounters an extraordinary resistance, such as is occasioned by being in a sea way, and then after this extraordinary strain is relieved, wherein the tow line is wound on the machine again, is of special merit and benefit. This same attachment is also very beneficial, especially in towing up the Sault river where there are sharp turns, and when the line becomes slack, it winds on the spool of the machine, so as to keep the tow line taut, and off the bottom. We also find that the use of your towing machine saves considerable time, because the tow line may be shortened without the towing steamer stopping entirely, as the line can be hauled in while the steamer is going along, so that no time is lost in having to stop and shorten the tow line. We are confident that in the future your machine will be adopted for use on all towing steamers and vessels. The results obtained from the use of this towing machine have been highly satisfactory in every way.

Yours very truly,

(Signed) JAMES DAVIDSON.

THE SEAWANHAKA CUP RACES.

The little sail-boat race in Canada between the representatives of the Seawanhaka-Corinthian Yacht Club, of New York, and the Royal St. Lawrence Yacht Club, of Canada, has proved a large enough teapot to hold a very disagreeable tempest. We have all read how the Canadian club entered a craft modeled like a catamaran, which surprised and displeased the American contestants, who felt, rightfully enough, that while the rules of the race did not expressly prohibit catamarans, common sense and sound sportsmanship did prohibit them. Nevertheless, the American boat sailed against the Canadian freak and was beaten. But, under instructions received by telegraph from the Seawanhaka-Corinthian committee, Mr. Gibson, the club's official representative, declined to receive public hospitalities after the race, absented himself from the hop given in honor of the visitors by the Canadians, and went home in a state of ostentatious displeasure.

Hence we have a very sickly and grewsome international episode. The Canadians are angry, and say they will send the cup to New York and let it stay there, which is the expression of a natural feeling. The best opinion on our side of the river seems to be that our men might with propriety have declined to race the little catamaran, but, so long as they did race, they should have taken all the consequences, including a full round of Canadian hospitalities, and kept their experience for future use. Squabbles over international yacht-races have so deeply disgusted and irritated the American people that they cannot tolerate even a little one. —Harper's Weekly.

Admiral Farragut used to relate that a pretty girl on a Mississippi steamer was anxiously sought in marriage by five of the passengers. Viewing them all with favor, the girl applied to the captain of the boat for advice in making her selection. He suggested that she leap overboard, after he had made arrangements that would make injury to her impossible. She did as he said. Four of her suitors promptly went in after her, and united in bringing her safely back to the deck. "What shall I do now?" she perplexedly inquired of the captain. "I don't rightly know, miss," he answered, "but it seems to me I'd take the dry one."—Ex.

MARINE RECORD

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CLEVELAND, O., SEPTEMBER 8, 1898.

THE revocation of a pilot's license for neglect and unskillfullness, as shown in another column of this issue of the RECORD, is a praiseworthy effort to better the steamboat service on the lakes, and the local inspectors of the U. S. Steamboat Inspection Service before whom the inquiry was held are to be congratulated on their terse, lucid and pertinent verdict. A few more such inquiries and firm, righteous decisions would go far to conserve and improve the practical handling of lake commerce. It is to be hoped that the findings of the Board of Inquiry will be maintained, and that no petitions or influences will be brought to bear to mitigate the result of the deliberations of the local inspectors in this case.

AS AN evidence of the crowded waterways which lake masters and pilots have to contend with during the season of navigation, the reply of Capt. Dugan in the Rochester-Mosher collision case is very significant. When Capt. Dugan was asked during the trial of the case, regarding the propriety or advisability of attempting to stop his steamer on sighting the schooner's green light nearly ahead, he said: "I dont think we could have done it;we might possibly have done it; if we had to stop and back for every light we saw on the lake, we would stay there all summer." An answer which, no doubt the majority of masters and pilots would readily endorse. It should be borne in mind, however, that, where one of two vessels must give way, or keep clear, the other must keep her course and speed and this rule is mandatory,up to the qualifying clause, wherein all the rules can be thrown overboard to avoid imminent danger. It is, therefore, begging the question to talk about avoiding other lights by stopping or backing when ordered to maintain course and speed.

WITHIN the past few weeks the engines of several steamers have broke down, notably among which are the passenger steamers Manitou, City of Chicago and the Greyhound. This week the Sheboygan broke her shaft on Lake Michigan, though the break was such that she was enabled to make port without assistance. It is somewhat remarkable that these series of accidents should have occurred with an apparent regularity, also, after every part of the machinery had been carefully inspected in the interests of underwriters. Shaft breaking is very uncommon on the lakes, and an engine going through itself is the exceptional case. It is not possible for marine engineers or underwriter's surveyors to know anything regarding fatigue of metal which does not show on the surface, but to this and this feature only must the recent breakdowns be ascribed. The chief engineer of the Manitou covered himself with glory (and steam) in preventing further damage than what actually took place, and great credit is also given to the engineer of the City of Chicago for his prompt action in confining the damage to the engine room, although the engine was completely demolished, and if anything in worse shape than that of the Manitou's.

A MONOPOLISTIC STEAMBOAT LINE.

Whatever name Canadian passenger steamboat clerks may call it by, it is our private opinion publicly expressed, that, insisting upon a person paying a second time for what he had already purchased is robbery pure and simple. Robbery and thievery are synonymous terms, only the latter word sounds a little harsher, that's all. The foregoing applies to and is in relation to a letter sent the RECORD this week by Capt. Thos. Wilson, managing owner of the Wilson Transit Line, Cleveland, detailing his recent experiences on a trip down the St. Lawrence. Capt. Wilson is a conservative man, from every standpoint, not prone to take umbrage on account of a seeming or even an actual neglect or oversight. A sailor, pilot and navigator, also a most successful business man, actual and practical manager of a large line of steamers, an ex-president of the Lake Carriers' Association, besides being the presiding officer over several important lines of business, hence, his protest against the manner in which the Richelieu and Ontario Navigation Co. of Montreal handle their passengers is a trifle weighty. We do not opine that there will be any international unpleasantness between the United States and the Dominion of Canada on account of the ill treatment received by several highly esteemed citizens and residents of Cleveland, O., at the hands of the Richelieu and Ontario Navigation Co., notwithstanding the belief that members of the Dominion Parliament are owners in the boats of that line, but we do believe and strongly hold to the opinion that reparation ought to be obtained in some manner, at least the Richelieu and Ontario Navigation Co. should, in this instance, be compelled to disgorge their ill gotten gains extorted from a too yielding American group of passengers. It appears, that if the employes responsible for the outrage on steamboat or traveling ethics cared at all for the interests of the line, or their own reputations, they would have endeavored to gloss over their filching peccadillo long 'ere this, yet, perhaps in their case silence is golden, and, as large bodies move slowly, the social and perhaps financial as well as legislative ponderosity of the Board of Directors of the Richelieu and Ontario Navigation Co. may be trusted to hang fire on this question until the expiration of another season or two, at which time the tax gatherers and passenger facilitaters which they carry on their boats may have gathered in the golden sheaves and be ready to abdicate or resign from their absolute regime, and abandon the situation over which their arbitrary sway ruled supreme during the period of their official omnipotence. Other lake passenger steamboat lines have often acted in a manner to repel and disgust those who are at home on the deck of a marine omnibus, and the blush has often been brought to the cheek of the writer at the treatment of those, whom through ignorance of steamboat travel, members of a crew could, would and did impose upon. In this case of the Richelieu and Ontario Navigation Co. a full apology should at once be made, the overcharges exacted tendered back and the ignorant, uncouth, if not dishonest, employe or employes disciplined.

LAKE FREIGHTS.

Grain freights have been steady through the week at 1⅛ cents on corn and 1¼ cents on wheat from Chicago to Buffalo. From Duluth the rate has held strong at 1¾ cents on wheat and 3¼ cents to Kingston, vessel paying tolls, Erie canal rates to New York, 2¼ to 2⅜ cents on corn. Coal rates from Buffalo to Duluth remain at 20 cents and 30 cents to Chicago, Racine 35 cents, Waukegan 40 cents, Ohio ports to Lake Michigan 25 cents. Ore rates are firm at 45 cents Escanaba, and 50 cents Lake Superior, but as some of the Carnegie ore chartered at 60 and 65 cents, to run into November, has been canceled, there will be more tonnage on the market than was expected.

ADMIRALS TO BE RETIRED.

The rear admirals who retire this year are: Admiral M. Sicard, recently president of the Naval War Board, and now president of the Naval Board of Promotions, who retires on the 30th inst.; Admiral E. O. Matthews, formerly chief of the Bureau of Yards and Docks, and now president of the Examining and Retiring Boards, who retires Oct. 24; Admiral Joseph N. Miller, the ranking officer of the navy, now in command of the Pacific station, who retires Nov. 22, and Admiral F. M. Bunce, commandant of the New York navy yard, who retires Sept. 25. The principal heroes of the Spanish war retire in the following order: Admiral George Dewey, commanding the Asiatic squadron, December, 1899; Admiral W. S. Schley, on the Porto Rican evacuation commission, October, 1901, and Admiral W. T. Sampson, of the Cuban evacuation commission, February, 1902.

PERIODIC FLUCTUATIONS OF THE GREAT LAKES.

Mr. F. Napier Denison, of the Meteorological Service of Canada, and who has just been assigned to duty in British Columbia in order to build up a forecast system for that region, has lately published in the Canadian Engineer a paper on the" Great Lakes as a Sensitive Barometer." Mr. Denison seems to have begun the detailed study of the subject in 1896, and at once proceeded to construct a self-recording guage showing the fluctuations of Lake Ontario at the mouth of the Humber river, 3 miles west of Toronto, on quite a large scale as to time and amplitude, viz. 1 inch of paper for an hour of time and a quarter of an inch of paper to an inch of fluctuation of water level. A second self-recording apparatus was subsequently set up in September, 1896, at the Burlington canal, at the southwest extremity of Lake Ontario, about 40 miles from Toronto. The records given by Mr. Denison's instrument are on a somewhat larger scale than those of the ordinary tide gauge, and in its latest construction Mr. Denison has added another record equivalent to that of a water barometer. Thus, on the same recording sheet we have the records of atmospheric pressure, and, therefore, the ability to make a minute comparison between this and the lake level.

1. Mr. Denison finds that when the lake record is least disturbed, so also is the barometric trace.

2. When the lake undulations become large and rapid so do the oscillations of the atmospheric pressure.

3. The larger undulations in the lake have a period that averages twenty minutes, and the smaller ones average ten minutes.

4. The lake level is never stationary, but the smallest movement recorded for twelve consecutive hours was from one-half to one inch when the pressure trace was also very quiet.

5. Mr. Denison further concludes that the longitudinal and transverse seiches in Lake Ontario are due to great differences of atmospheric pressure between the extremities of the lake, which differences are doubtless augmented when the gale strikes the surface of the water. The longitudinal seiche has a period of four hours and forty-nine minutes, but the transverse seiches only forty-five minutes. When the isobars, as shown on the daily weather maps, lie parallel with the axis of the lake, the seiche movement becomes almost imperceptible. These seiches appear shortly before the passage of some severe storm and for several days thereafter.

6. The rapid heaping up of the water at the upper end of the lake, which is due to great differences of pressure in conjunction with the action of the wind, sets up powerful currents at the top and bottom of the lake, and after this disturbance of water level is over the seiche or oscillation of the whole lake begins.

7. In connection with Helmholtz's paper on atmospheric billows Mr. Denison suggests that the smaller undulations are due to the direct action of the atmospheric waves or billows as they move over the surface of the lake.

8. That these undulations in the lake level become rapid and of great amplitude during fine weather and rising or stationary barometer, when an important area of high pressure is central over the Southern States.

9. That "the tidal waves," falsely so called, especially for Lake Erie, are due to large and rapid changes in atmospheric pressure such as are noticeable upon the barograph preceding or during thunderstorm conditions.

10. That the larger lake undulations may account for the existence of the greater waves encountered by fishermen and often termed the " three sisters."

RICHARD WINSLOW FOUNDERED.

The schooner Winslow, in tow of the steamer Inter-Ocean, was lost near White Shoals early on Monday morning. The crew of the schooner were taken off the barge with the greatest difficulty, as the wind was blowing a gale from the southwest and a heavy sea was running. The steamer and consort were approaching the Straits when the gale proved too much for the Winslow. Water began to pour into her hold, and the vessel soon became unmanageable, and was abandoned.

The Winslow had on board 1,600 tons of iron ore shipped by Oglebay, Norton & Co., of Cleveland from Escanaba to an Ohio port. Both vessel and cargo were insured. The Winslow was owned by Capt. Peter Wex and Henry W. Watson, of Buffalo. The Winslow was built at Cleveland in 1871, measured 885 net tons, rated A2½ and had an insurance valuation of $14,000.

SOME ASTRONOMICAL NOTES FOR SEPTEMBER.

(Communicated.

It is quite generally accepted that the first day of September marks the beginning of autumn, but astronomically considered, summer continues till the sun reaches the autumnal equinox, September 22, at seven o'clock and fifteen minutes in the evening. The date varies slightly from year to year. The belief is also quite prevalent, that, at the equinoxes the days and nights are equal. Certainly the term suggests that, but practically there is no time during the year when such is actually the case. The nearest approach to equality this year occurs on September 26, when the difference is only one minute. Previous to that date, the days are longer than the nights, but after the 25th the conditions are reversed, and the nights are longer than the days till we arrive at the last days of March, 1899.

Among the stars the beautiful Arcturus, that has so long adorned our evening sky, is slowly sinking towards the north-western horizon, and Antares, in Scorpio, that has also long been a leading brilliant in the evening, before the close of the month, will be lost in the mists near the south-western horizon. Vega, in Lyra, is still near our zenith in the early evening, and hence, will be at its maximum of beauty during September. Altair, in Aquila, south-east of Vega, will be found near the meridian in the early evening during the month, and hence, be seen at its best. Toward the south-east Fomalhaut, in the Southern Fish, will be a conspicuous object, the only first magnitude star in that quarter of the horizon. Toward the north-east all lovers of the stars will be glad to welcome the return of the brilliant Capella.

Jupiter and Venus, that were recently in conjunction, are now widely separated,and several hundred years must elapse before they will meet again under like circumstances. Jupiter will soon be lost in the rays of the advancing sun, and Venus will attain her greatest angular distance from the sun September 22, that is, she will then be farthest above the horizon at sunset. She is still increasing in brilliancy, and when seen through a telescope, resembles the moon at first quarter, in appearance. Saturn, in Scorpio, will continue to be visible during the month, but will only be available for satisfactory telescopic observation a short time longer. Mars is nominally an evening planet, but will not be conspicuous in our eastern evening sky this month, by reason of his late rising. Mercury can only be seen by early risers, as he will be a morning planet after the 4th of September.

The moon having just passed her full will be especially prominent in our evening sky the first week or more of the month, by reason of the small interval between successive risings. The full moon in September is known as the harvest moon. This year it occurs on the 29th, so that we shall be especially favored again this month by an unusual amount of more light in the evening. Venus and the crescent moon will form a beautiful picture in the western sky on the evening of the 19th, as they will be in conjunction on that date.

Sun spots have been rare during the past month, only one group was observed to pass across the sun's disk, and one small single spot is now in transit.

LATER.—A large single spot was seen by the writer Saturday afternoon, Sept. 3, just coming into view on the sun's eastern limb. Subsequent observations showed it to be one of unusual size for a single spot, including prenumbra, not less than forty thousand miles in diameter. The umbra alone was estimated to be about thirty thousand miles across, and unusually dense. It will probably be visible for several days, and its dimensions are such that an ordinary opera glass ought to locate it, and perhaps some sharp eyes protected by smoked or colored glasses could detect it unaided.

Monday, Sept. 5. The umbra seems breaking up this morning or disintegrating to some extent.

Toledo, Ohio. D. SATTERTHWAITE.

AN OBSTRUCTION LOCATED.

As of special interest to vessels navigating Maumee river at Toledo harbor, the steamer Visitor in charge of Assistant U.S. Engineer Mr. William T. Blunt, sought for and located the obstruction upon which the steamer S.C. Reynolds was damaged some time since. It appears to be a piece of jagged rock, six or seven feet in diameter, resting on a hard clay bottom. It is located about midway of the Mitchell & Rowland wharf, 80 feet from its face and about 50 feet down stream from the third slip, counting from Elevator No. 5. There is a depth of 13.2 feet of water over it with 16.7 feet around it at mean level of the lake; the present being somewhat below the mean. The entire bottom seems to be of hard clay with many boulders, rocks and stones. A buoy painted red has been placed to mark this obstruction, and vessel captains are specially requested not to disturb it.

Inasmuch as the project adopted by the general government for the improvement of Toledo harbor does not at present contemplate any improvements in this portion of the river, no funds are available for the removal of the obstruction. The location and marking of the rock are all that Col. Smith, Corps of Engineers, U. S. A., feels justified in doing.

NOTICE TO MARINERS.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS—MINNESOTA.

TREASURY DEPARTMENT, OFFICE LIGHT-HOUSE BOARD, WASHINGTON, D. C., August 31, 1898.

ST. LOUIS BAY—EAST AND WEST RANGES.—Notice is hereby given that, on or about September 15, 1898, the North Channel Post Light, East Range (rear), and the North Channel and South Channel Post Light (rear for both), West Ranges, will be changed from fixed white to fixed red lights, in order to more distinctly mark these ranges and distinguish them from lights on vessels and on shore.

The position of the lights will be as heretofore.

NORTH MANITOU LIGHT STATION.—Notice is hereby given that, on or about September 15, 1898, a fourth-order light, showing flashes alternately red and white, interval between flashes 10 seconds, will be established in the structure recently erected at the North Manitou Fog-Signal Station, on the point making off to the eastward from the southeasterly part of the North Manitou Island.

The focal plane of the light will be 70 feet above lake level, and the light may be seen 16.2 miles in clear weather, the observer's eye 15 feet above the water.

The structure consists of a square, white, pyramidal, skeleton frame tower, surmounted by a lantern deck and a lantern painted black.

It is situated 175 feet E. ¼ N. from the eastern face of the keeper's dwelling and 83 feet S. W. by W. ¾ W. from the S. W. corner of the fog-signal house.

The approximate geographical position of the structure, as taken from Chart No. 33 (North End of Lake Michigan) of the United States Survey of the Northern and Northwestern Lakes, is:

Latitude, North, 45° 03′ (45″);
Longitude, West, 85° 57′ (36″).

Bearings and distances of prominent objects from the structure, as taken from the same chart, are:

South Fox Island Light-House, N. 15° 19′ E. (N. by E. ⅜ E.) 22¾ miles;

Grand Traverse Light-House, N. 62° 51′ E. (N. E. by E. ⅝ E.), 22¾ miles;

South Manitou Light-House, S. 59° 22′ W. (S. W. by W. ¼ W.), 7½ miles.

Bearings are true and distances are in statute miles.

By order of the Light-House Board;

RUSH R. WALLACE,
Commodore, U. S. Navy, Chairman.

DOMINION OF CANADA—ONTARIO.

ENTRANCE TO OWEN SOUND HARBOR—Removal of Old Pier—The cribwork pier on which the front range light at the entrance to Owen Sound harbor, Georgian Bay, Ontario, originally stood, on the west side of the channel, 900 feet N. 29° 30′ E. from the outer extremity of the west breakwater pier, has been removed by the government dredge, in the course of work in progress in widening the entrance to the harbor.

Buoyage of Channel—It is understood that the edges of the dredged channel leading from the deep water of Owen Sound to the opening between the government breakwaters have been well marked by spar buoys, established by the corporation of the town of Owen Sound. There is said to be two distinct rows of buoys, red on the starboard and black on the port side of the channel, but no particulars have reached this department respecting their number and positions.

F. GOURDEAU,
Deputy Minister of Marine and Fisheries.

Department of Marine and Fisheries, Ottawa, Canada, 22nd August, 1898.

☞All bearings, unless otherwise noted, are magnetic and are given from seaward, miles are nautical miles, heights are above high water, and all depths are at mean low water.

Pilots, masters, or others interested are earnestly requested to send information of dangers, changes in aids to navigation, notices of new shoals or channels, errors in publications, or any other facts affecting the navigation of Canadian waters to the Chief Engineer, Department of Marine and Fisheries, Ottawa, Canada.

COL. ANDERSON, of the Department of Marine and Fisheries is now engaged placing gas buoys on Sequin Bank, Hooper Island Shoal, and Spruce Island Shoal, Georgian Bay.

MASTERS AND ENGINEERS HOLDING LICENSES ON THE LAKES FOR TWENTY YEARS AND UPWARDS.

Acccording to the list of masters and engineers issued under Section 4411, Revised Statutes of the United States, the following masters and engineers have held licenses from the steamboat inspection service for twenty years and upwards:

CLEVELAND, O., MASTERS AND PILOTS.

Francis H. Brown, 39 years; George F. Cleveland, Alfred C. Chapman, Daniel McFarlane, 38 years; Charles R. Cleveland, 36 years; Geo. P. McKay, Alexander McFarlane, 35 years; William Cumming, John A. Landfair, 34 years; William H. Williams, 33 years: Albert Drake, Charles Scott, 32 years; George W. Magle, Joseph C. Whetstone, 31 years; William Downs, John N. Lundy, James Davis, 30 years; Robert Harrington, Franklin A. Wetmore, John Duddleson, 28 years; Christopher C. Allen, John Sweeney, Daniel Buie, Thomas E. Black, Albert S. Fitts, 27 years; Joseph Albano, James W. Skeldon, Samuel N. Murphy, Frederick J. Magle, Dnncan Nicholson, 26 years; Geo. A. Brown, John N. Smith, Charles E. Benham, George V. Sage, William Downs, George L. Stephens, Wiltam Freyensee, William H. McNelly, 25 years; Joseph M. Marks, Henry C. McCallum, Stephen Jones, Thomas C. Herrick, Charles B. Chapman, William H. Smith, Joseph Gorman, 24 years; Dennis C. Clay, William P. Dike, Henry Crandall, James F. Bowen, Orrin L. Shannon, Owen Nugent, 23 years; Austin A. Kirby, Isaac B. Lyon, Lucius W. Young, 22 years; Solomon G. Hayward, William W. Johnston, John Lowe, Benjamin Moshier, Joseph Page, Charles H. Beach, 21 years; Alonzo W. Dwelle, Clinton G. Ennis, William C. Godsell, George J. Geisendorfer, Charles J. Littleton, John McNeff, William J. Pringle, Seymour Stratton, 20 years.

CHIEF ENGINEERS, CLEVELAND, O.

James Savage, 40 years; Samuel A. Wells, 39 years; Geo. Hendrey, 37 years; Jacob Haas, William Kennedy, William H. Prince, 34 years; Thomas Mooney, John Kascher, 33 years; Michæl Hughes, Charles L. Scoville, 32 years; James C. Hay, Patrick Roche, 30 years; James Spears, 29 years; Sidney C. Bennett, Michæl J. Clark, Henry Odette, Andrew Weis, 28 years; Daniel Conway, David Honeywell, John Kennedy, Charles Parsons, Jacob Weiss, 27 years; Thomas Berriman; Jarvis B. Cater, John L. Castle, Charles M. Homan, Evans Jenkins, George Masters, John B. Miller, Lewis Reif, Michael A. Taylor, 26 years; James E. Lyons, 25 years; William G. Angell, William Bridges, Archibald Currie, Rosel Downer, William Elliott, Charles S. Kreidle, George F. McNelly, Stephen H. Miller, James F. Mahoney, Chas. Rice, William Sullivan, Chester M. Stoddard, Charles S. Underwood, 24 years; Thomas Carnes; James Dempsey, Alvinza C. Decatur, William N Decker, William R. Frasier, Francis J. McHale, Quincy Miller, Omar N. Steele, William T. Van Dusen, James F. Williams, 23 years; Benjamin B. Burrows, Jasper W. Cook, James L. Chase, David Rainwater, John Gaa, Jonas H. Gilbo, Fred W. Harmon, William H. Haas, Silas H. Hunter, Charles C. Lance, Richard D. Mayberry, Edward C. Miller, John W. Mullinix, William H. Stone, Henry C. Talbot, Warren G. Tilton, Robert H. Wise, Leander Walley, 22 years; George E. Averill, Brant Stewart, Elmanson A. Baker, Michael McNamara, George W. Swett, Charles J. Church, Thomas Eagan, Robert H. Field, Isaac G Gillespie, August J. Helbing, Loren F. Monroe, Charles T. Masten, Robert H. Neil, Louis L. Ordner, John E. Parks, Michael Peck, Maurice B. Sturtevant, John Stoalder, Philip Wetzel, Arthur L. Wilcox, 21 years; Christopher Castle, Philip Callahan, John Cowley, Albert L. Eggert, Erasmus D. Locke, Charles J. Love, Frederick Stein, George W. Saltonstall, Cassius Williams, 20 years.

BUFFALO, N. Y., MASTERS AND PILOTS.

George Davis, 44 years; Lyman Hunt, 43 years; William Dickson, Valentine Jones, 39 years; James Gibson, Patrick Ryan, 38 years; Frederick L. R. Pope, Frank Williams, 37 years; Daniel Coughlin, 36 years; James Drake, John B. Hall, E. M. Smith, 35 years; Alexander Clark, Timothy Rahil, 34 years; Robert O'Neill, 33 years; George Bordeaux, Peter A. McKinnon, Joseph Shockett, 32 years; James Pratt, Frank D. Welcome, 31 years; Neil Chatterton, John Edwards, Robert Jones, James Shiels, James Fitzgerald, William Gallagher, 30 years; Dougald Buie, William H. Campau, John Hayes, Patrick Shea, 29 years; Thomas Burton, Eli McNett, Thomas C. Ellis, Henry Root, 28 years; S. E. Chatterton, James Doyle, John Foley, Delos Waite, 27 years; John Byrne, James Connors, Parlan McFarlane, John McDougall, Albert M. Shepherd, John H Wysoon, 26 years; Donald Gillers, Patrick Lynn, Edward C. Maytham,

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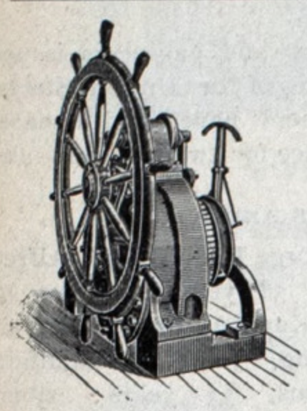

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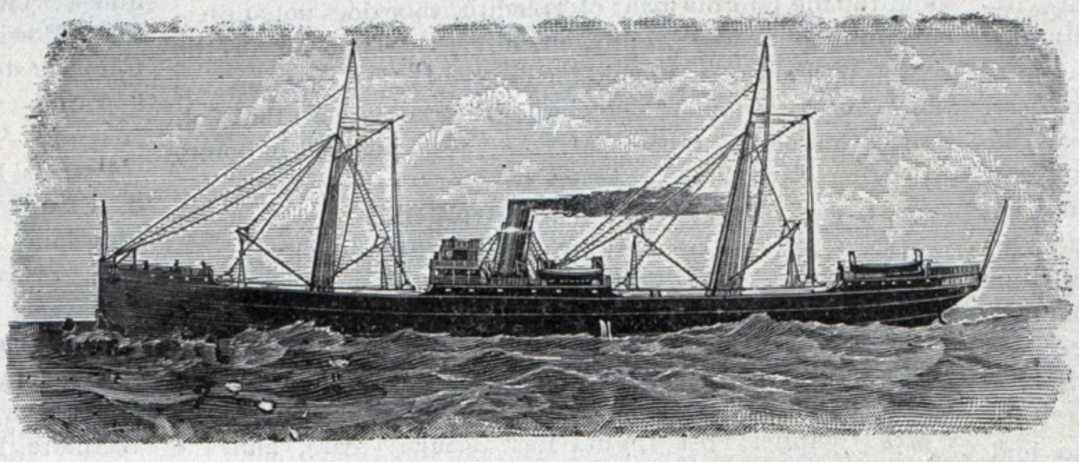

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CHIEF ENGINEERS, BUFFALO, N. Y.

Thomas P. Justin, 41 years; Adam Haig, 39 years; Henry Hess, Norton J. Warner, 38 years; Charles Allenbrand, John Dunn, 36 years; Harry L. Miller, 34 years; John G. Gaffner, Joseph Howlett, Thomas B. Marson, Harry Stone, 33 years; George F. Hunt, Daniel Mahoney, George W. Phillipe, William J. Warwick, 32 years; Patrick H. Doyle, John A. Francomb, Lewis B. Williams, Benjamin Munson, John Wise, 30 years; Edward Beaubien, William Clancey, Peter Coleman, Reynolds Hill, William Jamison, James H. Kendall, John Morgan, George Voght, 29 years; Peter Burns, James Corcoran, George Wise, Andrew J. Wilcox, 28 years; Joseph R. Blanchett, William Wilson, 27 years; William Brown, James Craft, Frederick Rehbaum, 26 years; George W. Cross, John N. Day, John Donovan, Frederick Kibler, James Reilly, Austin L. Sykes, 25 years; Alfred A. Green, Michæl J. Laney, Nicholas Larson, James H. Millon, Charles Nash, Jerry Rogers, Paul J. Reilly, Joseph G. Schumacher, Isaac Stambach, James L. Walker, Byron Walroth, 24 years; James Anderson, Hugh J. Bryan, William Dent, James W. Estes, George M. Hopkins, Henry C. Jordan, Samuel Moore, John Murnan, Dennis Sullivan, 23 years; Charles Coushaine, John Courtenay, Erskine Williams, Joseph N. Gregory, James Higgins, John Lawrence, Hubert Marion, William C. Marshall, Thomas Reilly, Frank Schneller, 22 years; Henry Besterd, Clark H. Donoughue, Robert Fleming, Astona Kieffer, Jeremiah McCarthy, Robert Oliver, Charles M. Thompson, Herbert Vroman, Robert T. Walker, 21 years; Byron W. Beerman, William D. Brook, Frank W. Baker, George H. Blenebry, William H. Hanlon, Henry Jones, W. Lamberton, W. H. Lawrence, Albert McMinn, John McMurray, William A. Robinson, George Trethway, 20 years.

DETROIT MICH., MASTERS AND PILOTS.

Duncan A. McLachlan, 40 years; William McKay, C. F. Moore, 38 years; Thos. Foster, 34 years; J. P. Young, 33 years; William E. Comer, William H. Rolls, 32 years; Shepard H. Currie, John M. Mc Gregor, 31 years; Clement Dubay, Michael Fitzgerald, David Girardin, 30 years; T. H. Holbrook, Martin Swain, Charles M. York, 29 years; John Doner, John Leonard, D. McKinzie, Dugald McLachlan, John H. Robertson, Joseph Waltman, 28 years; George W. Byrce, Calvin H. Chamberlin, Charles B. Crawford, Frank H. Danger, Robert E. Ferguson, E. C. Gatfield, Charles A. Peltier, Francis W. Stanton, 27 years; Peter C. Bassett, Maurice Barrett, Kenneth Finlayson, John H. Ivers, James R. Innes, Myron P. Parsons, John Wilkinson, 26 years; A. P. Clinton, George King, Edward McNelly, Robert Rhynas, Eugene Rathbun, 25 years; Daniel H. Bryant, John C. Carey, H. G. McQueen, John N. Tucker, David Tate, Robert H. White, 23 years; Anthony Gurney, Edward July, Gilbert Lacroix, Samuel McRoberts, Alex Rouelle, Richard Tobin, Marion Tinney, 22 years; Samuel H. Ashman, John C. Burns, Alexander Cattanach, Eugene H. Corbin, Louis Cequin, William Firby, Charles Miner, James W. Millen, John Miner, George H. Phelps, Thomas D. Quinlan, George Shanks, George Wilson, John W. Westcott, Albert J. Schutte, 21 years; Albert G. Allen, Alanson G. Aldrich, Colin C. Belfour, Walter E. Campbell, George Cruickshank, James Foster, Archibald McLachlan, William Meisel, John L. McIntosh, James O'Neill, James N. Riley, James Skiffington, 20 years;

CHIEF ENGINEERS, DETROIT, MICH.

Daniel C. Bennett, 41 years; John M. Cronenweth, William J. McClure, 36 years; Charles Tart, 35 years; Patrick E. Connor, Joseph Kollinger, William Owens, 32 years; Thomas Buchanan, Luther Douglass, 31 years; P. B. McCabe, William McKittrick, Frederick Pingle, 30 years; William J. Gervin, William S. Huff, Joseph Rosseau, John S. Ranney, 29 years; John Clark, Marten Delaney, Patrick G. Forsythe, John A. Hartman, Richard C. Ladlow, Alexander Morrison, William McKittrick, Thomas Merril, 28 years; William Bauld, Donald McMillan, William Ormsby, Robert Stage, 27 years; James Beaubien, John Hand, Richard S. Langford, Patrick O'Brien, 26 years; William Campbell, Charles B. Calder, John Delany, William Hay, John McLearn, Charles S. Peltier, John Westaway, 25 years; William A. Bates, Charles J. Burnham, Winfield Dubois, Philip Francony, John H. Galwey, John Jones, James E. Lewis, John Wood, 24 years; Charles Ausher, James H. Anthony, William C. Barr, Arthur O. Barton, Nicholas Huff, Edward Monnier, Gottlieb C. Mugkelburg, John H. Shackleton, 23 years; John Bloom, George Beane, Thomas Head, John Lacy, Joseph O. Snyder, William Teahan, J. F. Williams, Jacob Zeh, 22 years; Jacob Bery, Peter A. Crumhorn, Valtine Felder, William Harling, Edward Kean, Nicholas Lacroix, Joseph Lerouix, Thomas B. Hughes, Edwin Perry, John M. Sargent, 21 years; William Cocklin, John Elsey, George Francomb, John Gray, Asal Groomes, John Hibbard, Edward Harlock, Charles F. Lamb, John E. Sweeney, Thomas McManus, Peter Miller, Charles B. Maxson, James G. Purvis, Otto Frederick Wolfgang, George W. Willex, 20 years.

PORT HURON, MICH., MASTERS AND PILOTS.

Henry Fish, 44 years; Riley M. Barrington, 36 years; Hiram Ames, John Robertson, James Taylor, 33 years; William Rattray, 32 years; William T. Brown, Washington Moore, 30 years; John Atwell, 29 years; George H. Lester, Edward Tormey, 28 years; Samuel H. Barnham, Henry Donaldson, Michael Madden, Charles H. Marsden, William D. Neal, 27 years; Richard Armstrong, John Cornwall, Eugene M. Goodwin, Vincent Girard, Alexander P. Gallino, John C. Pringle, 26 years; Henry Bennett, William Maxwell, Alvin Neal, Hugh Stevenson, 25 years; Charles E. Galarno, Robert F. Goodwin, George R. Howes, Samuel Harris, F. G. Marsden, 24 years; James W. Bennett, Thomas Currie, William H. Hutchinson, James Leitch, Charles F. Morley, George A. Phelps, Henry A. Robinson, Christopher Smith, John Stone, 23 years; Lee S. Deland, William G. Harrow, John McArthur, Joseph W. Jones, Edward J. Kendall, 22 years; Fred W. Barclay, James Brines, William C. Curtis, Alfred Forrest, George H. Irving, Alexander B. Miller, Stephen Rose, John Randall, Luther L. Slyfield, Charles A. Vosburg, 21 years; Charles H. Cartwright, Harvey J. Kendall, Nelson Little, Thomas Lillis, John K. Moiles, John J. Stover, 20 years.

CHIEF ENGINEERS, PORT HURON, MICH.

James B. Worden, 37 years; George A. Covyeow, Thomas Daly, 33 years; John H. Hogan, 31 years; Alonzo Arnold, James F. Derrig, Alexander Jamieson, Eugene Stager, 29 years; Orin Davis, Henry Mason, James Reagan, Jerome

Swartout, 28 years; Frank A. Cadotte, Thomas Gowling, Walter P. Treleaven, Joseph Vallie, 27 years; John Blauvelt, John Boutin, John Kiesel, H. W. Maines, Nelson Julette, A. J. Holmes, Thomas Miller, 26 years; Cornelius Blauvelt, Homer Gregory, Dennis Kerrigan, Samuel L. Philips, 25 years; William T. Hand, Albert Hamlin, Joseph Paya, George Stamler, 24 years; Gustav Gey, Walter C. McCrea, William F. Sauber, Jerry Shampaigne, Leonard Sleno, 23 years; John D. Cooper, Frederick Haviland, Eugene M. Murdock, Benjamin Jackson, Charles Lewis, John M. Mitchelson, 22 years; Jacob B. Fink, H. C. Harrow, Dominick Minnie, George W. Merrill, George W. Robertson, Edward Taubert, 21 years; Frank Bowen, Charles H. Diem, Michael Owens, Thadius Kneal, Joseph Nichols, Byron M. Persons, David Thomson, 20 years.

MILWAUKEE WIS., MASTERS AND PILOTS.

John H. Dessett, 38 years; James McQuin, 31 years; Charles M. Davis, Frank G. Hutchins, Hiram H. Robertson, Michael Riley, Henry E. Stines, James F. Trowell, 29 years; Anthony Gallagher, William Nicholson, Thomas Honnor, James A. Nicholson, 28 years; William F. McGregor, A. F. Pitman, 27 years; John Denessen, John McSweeney, Francis Tiernan, 26 years; John Cochran, Hugh Clark, Joseph Martell, Richard W. Williams, H. W. Webster, 25 years; H. D. Campbell, Frederick Howe, Robert Haselbarth, Herman Hity, Joseph Munger, Joseph Russell, Joseph E. Jax, 24 years; Joseph H. Berow, Edward Cox, C. A. Freeman, Charles E. Kirtland, Peter Marsh, Samuel Neff, 23 years; E. P. Bangs, R. Booth, Lewis Clermont, William J. Carter, John H. Crawford, Gabriel Egeland, M. Golden, John L. Griffen, Oley Groh, John Kelleher, 22 years; Fredrick D. Chamberlin, Joseph Denis, C. B. Packard, P. A. Lindquist, Charles D. Odell, Pinkney Roulette, 21 years; Robert H. Sunderland, John H. Thrall, Albert E. White, 20 years.

CHIEF ENGINEERS, MILWAUKEE, WIS.

Jeremiah Haverlick, 32 years; Frank Keating, 31 years; Thomas Ingram, Pratt Scott, 30 years; Jeremiah Collins, John Denessen, James McQuirk, Horace R. Thrall, 29 years; Frank Coons, 28 years; Michael Conley, Charles Gould, C. A. Freeman, James McNalley, 27 years; William F. Gregory, A. M. Van Ells, 26 years; Raymond Flint, James Foley, Frederick Trogel, Peter Webber, Charles Wilcox, 25 years; Charles R. Denis, Mike McCarthy, David Machia, Jacob A. Noble, William H. Pinkham, John Smith, 24 years; Nicholas Becker, Daniel Brett, Manera Mommsen, Charles C. Moreland, M. O. Parker, Marcus W. Parker, Julius Schramm, Nicholas J. Smith, 23 years; James E. Murray, Frederick A. Schrant, William Oakley, Peter Sullivan, Frederick Witzel, 22 years; Matthew Purcell, William H. Beall, Michael Dailey, L. W. Simons, Joseph A. Sweatman, 21 years; Thomas Albrighten, Paul Denis, Charles G. Forsythe, John P. Ferrel, Mark D. Holt, Peter Gagnon, W. O. Helmholz, James Haslam, Felix Neider, Henry Johnson, Joseph Martin, Frederick A. Thompson, 20 years.

CHICAGO, ILL., MASTERS AND PILOTS.

Richard A. Davis, 40 years; P. C. Roach, 39 years; Edward E. Napier, 34 years; Henry McAdams, Ralph C. Britain, Levi S. Mann, William Rollo, 33 years; William Crawford, Charles McIntosh, Allan McIntyre, Hiram C. Page, John E. Snow, 32 years; Frank S. Butler, Robert C. Goldsmith, Walter Robinson, John Sweeney, 31 years; George H. Jewell, John W. Gillman, John Nicholson, John Fitzpatrick, 30 years; Frank Hebner, George McCullach, Richard Tyrrell, 29 years; Edward Doherty, Lewis Groh, J. J. Hickman, William Walsh, James Hogan, George E. Merritt, John Raleigh, 28 years; Duane Ryder, Adelbert J. Moffett, Jas. Q. Owen, 27 years; G. Elliott, Jas. Bennett, Chas. W. Brown, J. Coughlin, C. E. Moody, Riley Philliter, E F. Thorpe, 26 years; R. Hallan, William A. Boswell, Alexander D. Campbell, David M. Cochrane, George L. Hogg, John Steward, 25 years; Elgin B. Bowen, Henry W. Blue, Henry T. Consaul, H. W. Hart, Alonzo W. Henderson, Fay Nyman, James R. Sinclair, Solomon York, 24 years; James Carr, William A. Hodge, John M. Mitchell, Thomas D. McBride, Cyrus H. Sinclair, 23 years; Gilman W. Flood, William Monroe, Frank W. Van Patten, 22 years; David Curran, John Sheehan, Michael Donohue, Donald McLean, John Taylor, Edward Van Dalson, 21 years; Martin Hausler, Thomas G. Baldwin, Horace J. Beddell, Emery J. Buscey, Arthur J. Branch, Alexander Cleghorn, Thomas Chron, John Cassin, William H. Gardner, James Mooney, James W. Morgan, Thomas Nicholson, Robert Nicholson, 20 years.

CHIEF ENGINEERS, CHICAGO, ILL.

John Philips, 41 years; James Turnbull, 37 years; Bartley O'Brien, 33 years; Joseph Covyeow, Edward Jacques, George McLane, John F. Smithells, 32 years; James Donnelly, Timothy Hudson, Patrick Murphy, 31 years; Edward Haycox, William Lynett, Michael Maher, Patrick Shields, 30 years; James S. Benson, Isaac J. Eaton, Henry F. Otto, George C. Shorer, Thomas Seymour, 29 years; William Brake, Lewis E. Minnie, John Miner, Andrew C. Miller, George P. Roth, Joseph H. Stombs, Jacob Sutter, Richard E. Smithells, Charles Van Every, 28 years; Nicholas Deutscher, Charles Gumlich, George Henson, William A. Hendrey, Charles Murrett, Robert Powders, 27 years; William J. Hackett, John Jamison, William H. Marshall, John L. Rawson, Frank Shaw, Charles E. Stacey, David Wills, 26 years; Michael Donnelly, W. E. Elliott, William J. Henry, Benjamin J. Hineline, William McKee, Charles F. Porter, J. M. Stroder, John A. Wilson, 25 years; John Barry, Simeon S. Burk, James W. Brown, Charles L. Bernard, Thomas Kehoe, S. G. Moreland, Henry G. Paine, D. B. Ramsey, James Speer, 24 years; George Arnold, Judson A. Baldwin, C. W. Bernard, Dexter W. Blauvelt, William C. D. Gillespie, William McKittrick, Jr., Frank McCormick, Charles Steadman, Peter Sullivan, Dennis Tibbetts, William H. Webb, 23 years; Nathaniel L. Crawford, Joshua Dines, David Gravelle, Henry Lancto, Dennis McManeny, Joseph Mallow, Charles F. Pierce, Edward Welmer, 22 years; William Anderson, Edward Comiskey, Thomas Corrigan, George Fogg, William G. Fell, Morris Gore, John C. Johnson, Charles R. Lee, John McGee, P. J. Navaugh, Patrick F. Theodore, John Quayle, Thomas W. Smith, William A Snyder, George B. Wilson, Alfred E. Welch, 21 years; A. L. Hoeffel, Edward Henchey, Alia R. Knaggs, J. H. McLary, Patrick Ryan, Hiram N. Snades, Geo. VanEvery, 20 years.

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Harvey Brown, 34 years; Ira Bishop, Hiram C. Manwarring, 33 years; Joseph Richard, 31 years; Richard FitzGerald, 30 years; John E. Cline, Thomas Leonard, William Leonard, 28 years; William Shay, William Wait, 27 years; Daniel Murphy, 26 years; Thomas Mullen, James Pappa, 25 years; Edward Powers, James Byrne, 24 years; Charles W. Ferris, Charles A. Richardson, 23 years; Charles E. Norton, 22 years; Edward Bertrand, Erastus F. Forrester, Lewis R. Plumb, John J. Bates, Wilson H. Westcott, 21 years; John A. Davis, Howard J. Gould, David Hanna, 20 years.

CHIEF ENGINEERS, OSWEGO, N. Y.

Samuel Thompson, 34 years; John Duquette, 31 years; William H. Bishop, Daniel M. Doyle, John Wood, 29 years; William Wise, 27 years, John H. Dickson, John Tomlinson, 26 years; Harris Higgins, 25 years; Jasper Ellis, John Lesperance, 23 years; Albert E. Cline, 22 years; Spencer T. Axtell, 21 years; John D. Carter, Henry C. Trickey, 20 years.

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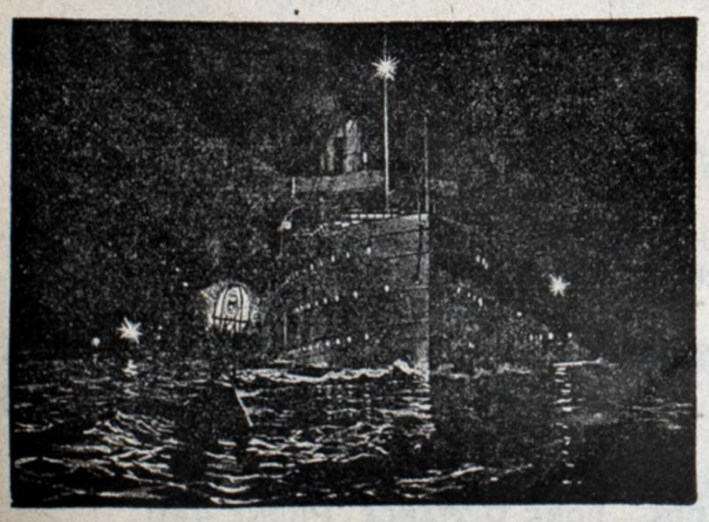

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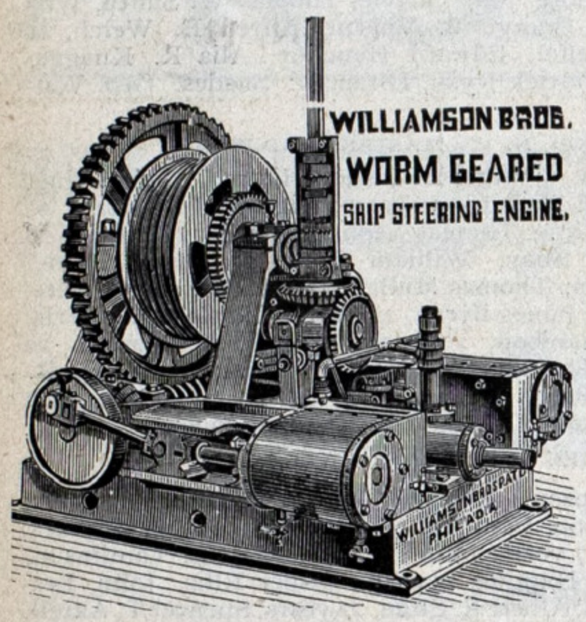

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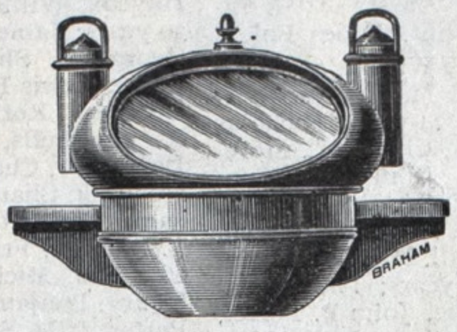

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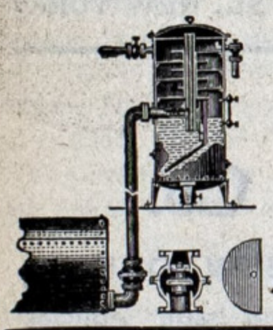

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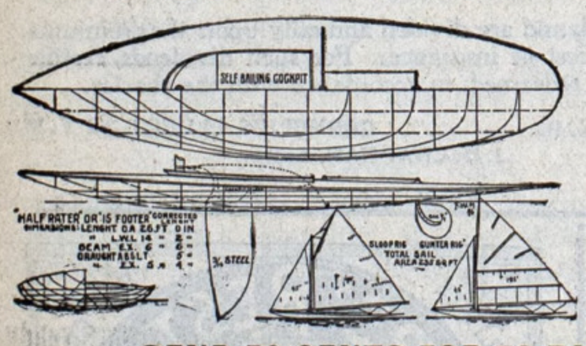

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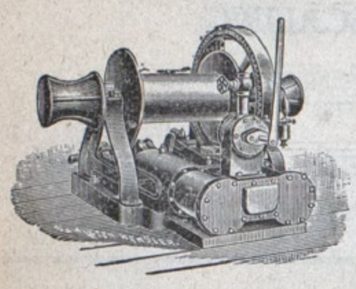

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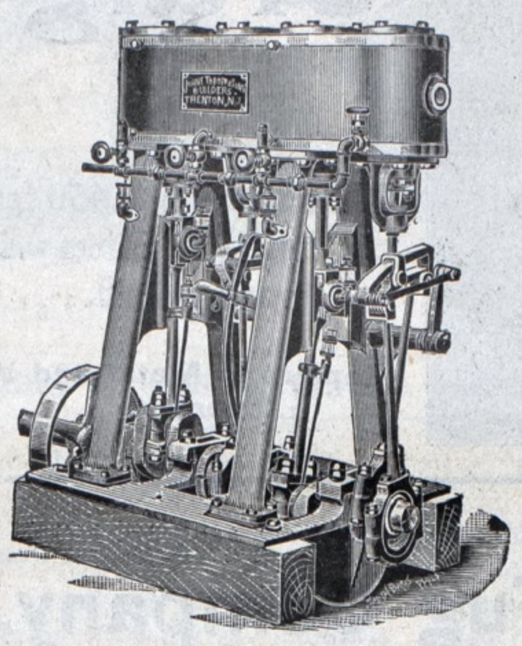

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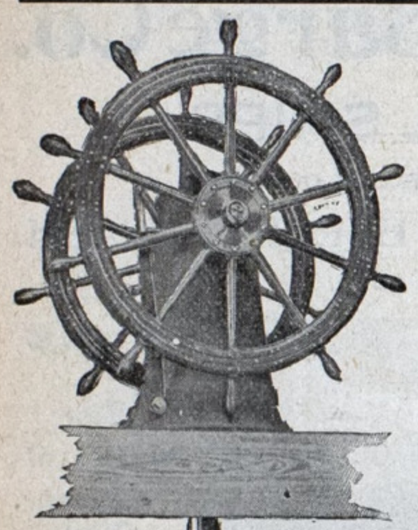

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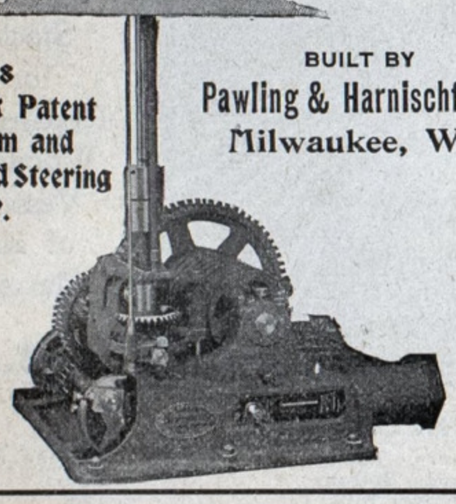

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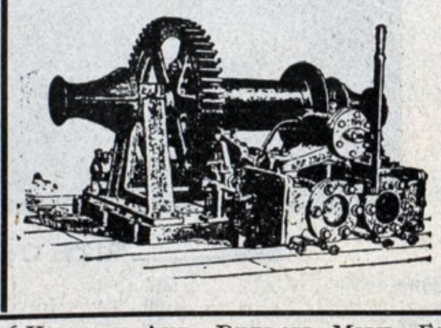
Office, 240 South Water Street.
TELEPHONE, MAIN 273.

Three Long Whistles Call our Tugs.



HOISTING ENGINES

We build them in all sizes from new and improved designs. Every engine thoroughly tested before leaving our shop, and guaranteed to be satisfactory in every case.

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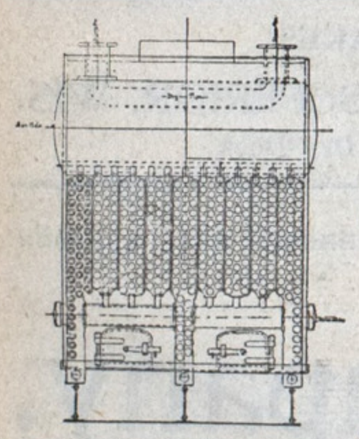

26 HANCOCK AVE., DETROIT, MICH., Feb. 9, 1897.

E. H. BRIDGES, Bay City, Mich.:

Dear Sir.—Replying to yours of the 9th, I have to say that I think the Flajole the best form of Water Tube Boiler made. The one I have seems a perfect steamer, and the question of durability seems the only one yet undecided, and that only time can tell. Yours truly.

R. J. CRAM.

The Flajole Sectional Water Tube Boiler.

Combines Small Space, Economy and Durability.
Easy of Access for Repairs.

JOHN A. FLAJOLE, Cor. 2d and Saginaw Sts., Bay City, Mich

J. H. OWEN, Pres., Chicago. F. H. VAN CLEVE, Sec., Escanaba. Capt. GEO. BARTLEY, Supt., Escanaba.

Escanaba Towing and Wrecking Co.

ESCANABA, MICH.

Tugs, Lighters, Steam Pumps, Hawsers, Hydraulic Jacks and Diving Appliances always ready

TUG MONARCH—Engine Compound, Cylinder 16 and 30 in. diameter, 30 in. stroke, steam pressure allowed 125 pounds. TUG DELTA—Cylinder 20 by 22, steam pressure allowed 105 pounds.
TUG OWEN—Cylinder 20 by 20, steam pressure allowed, 104 pounds.

CENTRIFUGAL PUMPS. SEVEN AND FOURTEEN INCH SUCTION.

VESSEL SUPPLIES. Tel. Main 3411.

D. C. DEEGAN,

Meats, Groceries and Provisions.

24 Rush Street. CHICAGO, ILL.

NEVERSINK CORK JACKET AND LIFE BELT.

Warranted 24 lb. Buoyancy and full Weight of Cork, as required by U. S. Inspectors. **Consolidated Cork Life Preservers.** Superior to all others. **Rings Buoys and Fenders.** SAFEST CHEAPEST.
Approved and adopted by U. S. Board of Supervising Inspectors.
Also adopted by the principal Ocean, Lake and River Steamer Lines as the only Reliable Life Preserver. Vessels and trade supplied. Send for Catalogue.
Awardad four medals by World's Columbian Exposition.

METALLIC and WOODEN LIFE BOATS.

Metallic Life Rafts, Marine Drags.

Manufacturer of Woolsey's Patent Life Buoy, which is the lightest, cheapest and most compact Life Raft known. Send for illustrated catalogue. Get our prices before buying elsewhere.

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MARINE SURVEYOR AND APPRAISER.

ALL HULL DAMAGE CASES PROMPTLY ASSESSED.

ORDERS SOLICITED.

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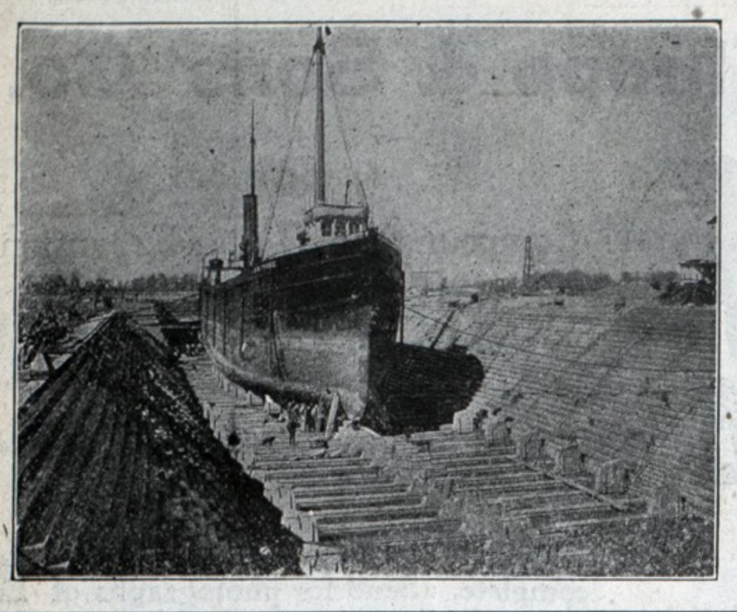

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TOLEDO, OHIO.

New Dry-Dock 450 feet long, 110 feet wide on top, 55 feet wide on bottom, 16 feet water on sill.

Repairs to Metal and Wooden Ships a Specialty.

Metal and Wooden Ship Builders.

H. A. HAWGOOD, Pres't. C. A. MORGAN, Gen'l Mang'r. A. SMITH, Sec'y.
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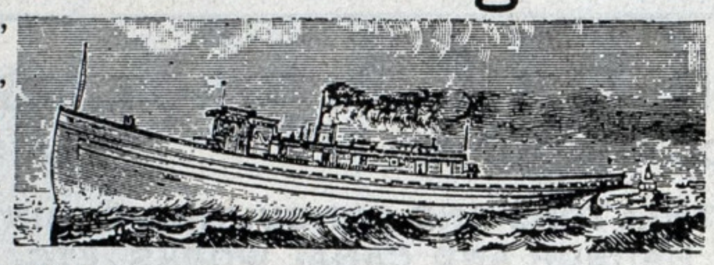
The Cleveland Tug Company,

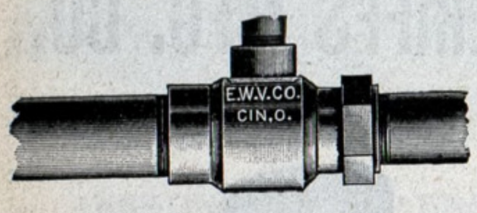
First-class Tugs, Steam Pumps, Divers, Hawsers, Lifting Screws, Etc., furnished Promptly on Orders by Telegraph or otherwise.



Steamers when outside wanting our Tugs, blow one long whistle and as many short ones as they want tugs.

OPEN DAY and NIGHT.
Long Distance Telephone 725.

OFFICE 23 RIVER ST.



USE THE VANDUZEN ...STEAM JET... **PUMP**

The BEST Steam Jet Pump in the WORLD,

It pumps the most water using the least steam.

Its cost is a little more than the common syphon, but will use only one-third the quantity of steam; and it takes coal (? of $) to make steam.

The ONLY reliable Jet Pump for fires on steam vessels.

A No. 7 Pump costing $25.00 will force water through 50 feet of hose and throw a ¾ inch solid stream of water 75 feet from end of nozzle without fail as long as there is water at end of suction pipe. It will not *freeze*. Has no *valves*.

Every pump guaranteed. Ask your ship chandler for them, or write to us for illustrated catalogue.

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A. Gilmore's Sons,

Dry-Docking, Ship Building and Repairing.

EAST SIDE, NEAR IRONVILLE, - - - TOLEDO, O.

Dimensions of Dock, 236 feet long, 55 feet wide at top and 37 feet wide at gate. Nine feet water over sill. RATES OF DOCKING, Ten Cents per registered gross ton for vessels over 200 tons. Jig Mill and Planer in connection with Dock.

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Paint Your Vessel with **Superior Graphite Paint**

NO BLISTERING, CRACKING OR SCALING.

Made especially for Stacks, Decks, Sides, Hulls, and Water Compartments.
Strictly Anti-Rust, and most durable and economical.

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American Steel Barge Co.

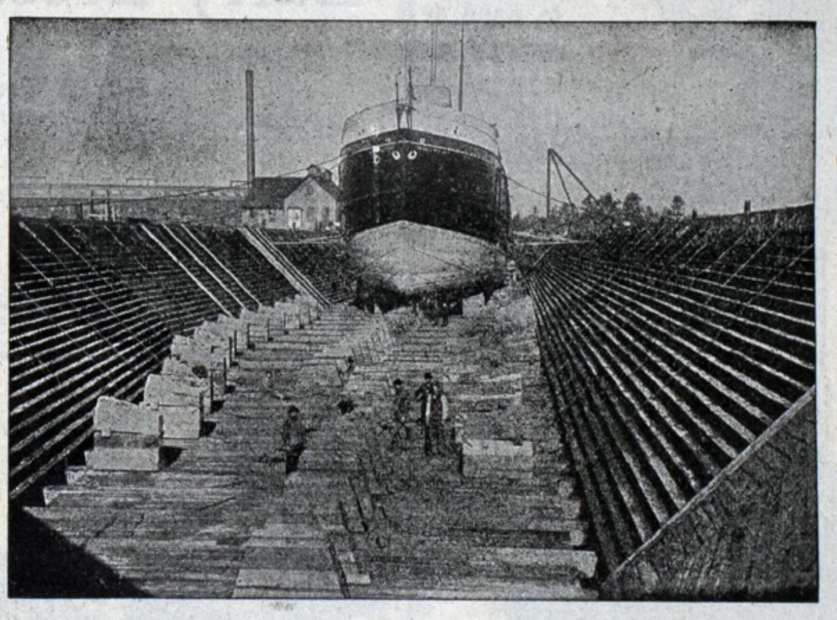
STEEL AND METAL SHIPS

Of all Classes built on shortest possible notice at our yards at

WEST SUPERIOR, WIS., and also at EVERETT, WASH.

PHOTOGRAPH OF 300-FOOT BOAT IN DOCK.

Plates and Material always on hand to repair all kinds of Metal Ships in Shortest Time.



Best Quality of Oak in Stock for Repairing Wooden Vessels of all Classes.

SIZE OF DOCK

Length, Extreme	537 feet.	Entrance, Top	55 feet 9 in.
Breadth, Top	90 " 4 in.	Entrance, Bottom	50 "
Breadth, Bottom	52 "	Depth over Sills	18 "

LARGEST DRY-DOCK ON THE LAKES.

Prices for Repairs and Docking same as at Lower Lake Ports.

SUPERIOR, WIS.

A Number of Propeller Wheels in Stock at Dry-Dock.

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The Shipowners' Dry Dock Company.

LENGTH OF DOCKS:	WIDTH OF GATES:	DEPTH OVER SILLS:
No. 1, 462 Feet.	50 Feet.	18 Feet.
No. 2, 350 "	55 "	18 "
No. 3, 360 "	50 "	20 "

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The Only Dry Docks at the Port of Cleveland, O.